

THE AMERICAN FARMER

OUR CIRCULATION.

Aggregate for 1895 - - - 1,204,780

Page circulation for six months of 1895, - - - 100,478

Issue - - - - - 100,380

Established 1819.

WASHINGTON, D. C., JULY, 1896.

77th Year. New Series.—No. 83.

THE SAN JOSE SCALE.

Appearance in the East of the Dreaded California Fruit Pest.

J. M. STEADMAN,
Entomologist, Missouri Experiment Station,
Columbia, Mo.

In 1873 the San Jose scale (*Aspidiotus perniciosus* Comst.) was discovered on fruit trees in San Jose, California. From this locality it spread rapidly, until in 12 years it had infested every fruit-growing region in that State, and had reached Oregon and Washington orchards.

IMPORTANCE OF THE INSECT.

It at once became known as the worst insect pest of the orchard, and is to-day



Fig. 1.—San Jose scale—*a*, pear, moderately infested; *b*, female scale—enlarged.

capable of causing more damage to the fruit interests of the United States, or perhaps of the world, than any other known insect. The infested trees are either killed in two or three years or rendered worthless. Several million dollars' damage has already been accomplished by this pest in California, and it now threatens to be even more destructive in the East. The scale is not readily detected by the casual observer, and consequently often remains unnoticed until the death of the tree calls attention to it. Unfortunately it multiplies rapidly. Each adult female continues to give birth to living young for a long period (six weeks), and there are several (probably four) generations each year. It infests the stems, twigs, leaves and fruit of nearly all deciduous fruit trees, and is extremely difficult to kill.

These statements are not made to cause unnecessary alarm, but merely to call attention to the facts in the case, in order that the proper precaution may be taken to prevent the introduction of this pest in new localities, and that every effort may be made to detect and exterminate it in the regions now infested.

OCCURRENCE EAST OF THE ROCKY MOUNTAINS.

The San Jose scale was found in New Mexico in 1892, and in August, 1893, in some of the Eastern States, where it had evidently been unnoticed for four or five years. It had gained a good foothold in several localities, especially in two New Jersey nurseries, before its identity was discovered. The proprietors of the infested nurseries suppose the scale was introduced about 1887 on plum stock received from California through the agency of a Missouri nursery. As a result, Missouri has been published in several Eastern Experiment Station Bulletins and by the United States Department of Agriculture as having introduced the San Jose scale in New Jersey, from which locality it has spread to eastern Virginia, Maryland, Delaware, southeastern New York, southeastern Pennsylvania, Massachusetts, Ohio, southern Indiana, Georgia, and is found in Florida, Alabama, Louisiana, New Mexico, Washington, Oregon, Idaho, and, of course, California.

From investigations conducted this Spring by this station, it is evident that Missouri is not responsible for this introduction, since none of the stock from California on which the scales were supposed to have been, was planted in Missouri; it simply passed through one of our nurseries, acting as agents, and by order of a California firm. The responsibility, therefore, rests with California and not with Missouri. * * *

FOOD PLANTS.

Unfortunately the San Jose scale will live and multiply on a great variety of plants, but especially on deciduous fruit trees and bushes, and also on many shade trees and ornamental shrubs. It infests the limbs, twigs, leaves, and fruit. The fruit trees more liable to be attacked are the pear, plum, peach, apple, cherry, and quince. It is strange that, although the pear is a favorite food plant, certain

varieties are nearly always exempt, namely, Leconte and Kieffer. Japanese plums are said to be more subject to the attack of this scale than are the American varieties.

The following is a list of the food plants as given by Dr. L. O. Howard: Linden, Euonymus, Almond, Peach, Apricot, Plum, Cherry, Spiraea, Raspberry, Rose, Hawthorn, Cotoneaster, Pear, Apple, Quince, Flowering Quince, Gooseberry, Currant, Flowering Currant, Persimmon, Acacia, Elm, Osage Orange, English Walnut, Pecan, Alder, Weeping Willow, Laurel-leaved Willow.

DESCRIPTION OF THE INSECT.

The San Jose scale belongs to the same sub-family (Diaspidina) to which the common Oyster-Shell Bark-Louse (*Mytilaspis pomorum*) of the apple belongs. It is easily distinguished from the latter, however, by the fact that the San Jose scale is perfectly round or circular, or at most slightly irregular, while the Oyster-Shell Bark-Louse is two or three times as long as wide. The San Jose scale is flat, very slightly raised in the center, and is applied close to the bark, which it resembles more or less in color. The full grown scale is grayish with a small black or yellowish central spot, and is about one-fourteenth of an inch in diameter. As most of the scales on a limb are not full grown, the general appearance is that the scales are very much smaller. The young scales are dark colored, sometimes appearing almost black. (See figures.)

When occurring in large numbers on a limb or twig, the scales are crowded together, and frequently overlap one another. At such times they are not as readily detected, since they completely hide the natural color of the bark, and give the whole a grayish appearance as if covered with ashes. When not so thick on the limb, the difference between the color of the bark and that of the scales is more readily detected.

Healthy living scales may be detected by crushing them by means of the finger nail pressed tightly and drawn along the limb, when a yellowish oily liquid will appear.

LIFE HISTORY OF THE INSECT.

The full grown scales that appear to the naked eye are the protective secretions which, in connection with the exuviae, cover the minute female insect. To the ordinary observer, the naked female is never seen. She is, in the adult state, much smaller than the scale, and is simply a sack with an enormously elongated beak or sucking tube. This tube is her mouthparts, and is inserted into the plant from which her nourishment is drawn. She has no legs, antennae, eyes, or wings, and cannot move. The adult male insect, on the contrary, has well-developed legs, antennae, eyes and wings, and flies about in search of females. The ordinary observer, however, never sees him, since he is so extremely minute.

During the Winter San Jose scale can be found hibernating in a nearly full-grown condition. In the early Spring the hibernating males appear, and later, during May, those females that have lived through the Winter mature and give birth to living young. They continue to thus produce young lice for six weeks.

The young are extremely minute, and unless one is an expert and has good eyes, they will not be seen without a



Fig. 2.—San Jose scale—Apple branch with scales in situ—natural size; enlarged scales above, at left.

magnifying glass. They are yellow in color, oval in shape, and have six legs, by means of which they crawl about over the plant in search of a suitable place in which to insert their long sucking beak. They are, fortunately, active for a few hours only, when they insert their beak through the bark and begin to suck the juice of their host. The young males and females look exactly alike, and behave alike. If the young is to become a female, it never leaves this place, but soon secretes a scale and, losing its legs and antennae, is forever stationary. If the young is to become a male, it secretes a scale and loses its legs and antennae for a time, but eventually regains them and also a pair of wings and eyes, and then emerging, leads an active life.

There are at least four generations each season in this latitude; and as each female continues to give birth to living young for a period of about six weeks, it follows that we are able to find the insect in all stages of development during the entire Summer, since the different broods overlap.

ENORMOUS PRODUCTIVENESS.

The males reach maturity in 24 to 26 days from birth, and the females in 33 to 40 days. Each female gives birth

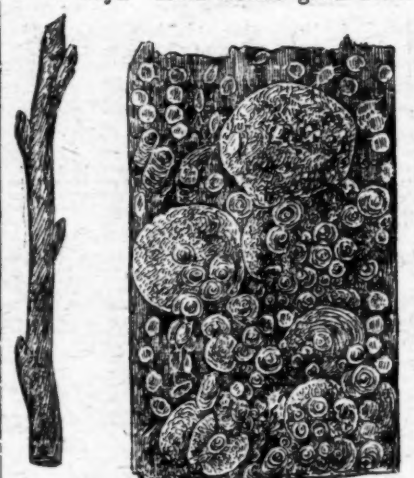


Fig. 3.—Appearance of scale on bark: *a*, infested twig—natural size; *b*, bark as it appears under hand lens, showing scales in various stages of development and young larvae.

during its six weeks of productiveness to about 446 females and 122 males, according to Mr. Howard. That would give us as the total progeny for one Summer, resulting from the wintering of a single female, 1,608,040,200 females, or 3,216,080,400 males and females. Of course, this estimate is based on the supposition that all young live. In reality not all young ever reach maturity, but the greater number of them do, no doubt, in favorable seasons. These figures will give one some idea of how rapidly these minute scale insects multiply, and thus make up in numbers what they lack in size. It also explains why they are found in such quantities on infested trees, and eventually cause the death of the plant attacked.

HOW IT SPREADS.

So far as the fruit interests of Missouri are at present concerned, the San Jose scale will probably not reach us unless brought into the State on fruit trees purchased in infested regions. This is the method by which it is distributed over large and isolated sections. Fruit sold at our fruit stores and stands, especially California fruit, frequently has the San Jose scale upon it; but the chances are not great that these insects will ever reach a place where the young can find nourishment and live, since, fortunately, the young are active traveling insects for only a few hours. They never travel more than a few feet, when, unless they obtain food, they perish.

The scale, when once in an orchard or locality, spreads from one tree to another and from one field to another by means of the young active ones. They crawl upon other insects that are always alighting in trees, and are thus conveyed to other trees and localities. I believe this is the chief natural method of distribution. They are, no doubt, carried by birds and other animals, and even by wagons; but not to as great an extent as by winged insects. The young probably never of themselves crawl on the ground to neighboring trees, unless the trees be very near together, as in the nursery. They will, however, crawl from one tree to another with absolute certainty if the limbs connect or overlap. This is the very best means of contamination, and one should make sure that, in an infested orchard, no limbs of one tree touch a neighboring tree.

PRECAUTIONS.

Guard against procuring stock from infested regions.

Let every one who has purchased stock from the infested regions within the past four years, especially from New Jersey and Maryland nurseries (see other localities previously given), examine such trees carefully; and if suspicion is aroused, cut off portions of the infested limb and mail it to me, together with your name and address, the kind of tree on which found, and, if possible, the extent of the damage and the source from which the stock was purchased. This is in all cases, the safest plan to follow, since you will thereby avoid all risks. In publishing reports of such examinations no names are used without permission, except cases in which parties are knowingly and willfully perpetrating a fraud.

REMEDY.

Considering the exposed condition of the insect, and the ease with which remedies can be applied to it, the San Jose scale is, perhaps, the most difficult insect to kill that we have to deal with. Ordinary kerosene emulsion, so destructive to most scale insects, will not kill this

insect except in its very early stages as young active lice; later the scale seems to protect them from injury. It is, therefore, necessary to resort to more powerful remedies.

From experiments conducted in the East, it appears that the well-known California remedies are not equally suited to eastern conditions, and do not give as good results as other remedies. It is impossible to discuss, in this brief circular, the merits of the different washes and other remedies used against this insect. It will suffice to give the following, which has been found to be the simplest and most effectual:

Use whale-oil soap, dissolved in water in the proportion of two pounds of the soap to one gallon of water. Apply thoroughly by means of a force pump and spray nozzle. Give the trees a good drenching on all sides, and repeat the process if it rains within a week after the spraying.

The best time to apply the wash is in the Fall, just as the leaves are dropping or have just fallen, and before the scales have become hardened, and again in the Spring, either just before or while the trees are blooming.

The use of washes during the Summer is of practically no economic value, since the young lice are hatching continuously. This would necessitate repeated sprayings every third day for two months. The expense of such a treatment would be too great. The young San Jose scale, not over two days old, is easily killed by ordinary washes, and if it were not for the continual appearance of the same, the insects would not be especially troublesome.

Be sure and use whale-oil soap, and not ordinary soap. If whale-oil soap can not be had, fish-oil soap can be used, but not with as good results. Whale-oil soap can be purchased from any large drug firm. It costs about four cents per pound.

The only objection to the application of this wash is that the trees are liable to either not bloom at all or to bloom very little the first season, but they will make up in an increased development of foliage and vigorous growth of the tree.

The whale-oil soap used as directed should completely exterminate the San Jose scale on the trees thus treated in Missouri.

The German Mortgage System.

EDITOR AMERICAN FARMER: I sold my Sugar Creek Falls farm this Spring at a low price—\$50 per acre. After holding it 40 years under the tenant and mortgage system, I was obliged to make a sale. The German mutual plan recommended in your paper would be a great advantage and relief to the farmers of America. The saving of \$150,000,000 interest per year means a great deal. It would better the farmer's condition materially. And that must be done. All that is required is to make a good beginning. Farm land is the very best security; so that land owners by the saving process will be able to buy land in competition with capitalists, and every dollar saved in that way may be spent on farm improvements. I appreciate your great desire to help the farmer better his condition.

THE AMERICAN FARMER is only two years older than I am. The question now arises, How does it come that this enormous debt has grown on the land? The first reason: The tax on uncultivated land; the second, the tillage by the tenant system, yearly cropping; third, the failure of maturing crops, and the additional cost of farm labor; fourth, the selling of his products at lowest market prices.

Now, the German in this country has proven the best landlord by his economy and doing his own work. And now we seek a remedy by adopting his plans. And another consideration. The oldest of the family marry early and seek other employment, and leave the old folks to do their best.—ISAAC N. DEARDORFF, Canal Dover, O.

Working Corn.

Deep working of the corn is only permissible at the time when the roots have not spread far from the stalk of the plant. It is then quite right and proper that the plow may be used to turn a furrow—a shallow one only is needed—from the plant, and in this furrow to scatter whatever fertilizers are desired for the crop. The soil is then turned back again, thus bringing the fresh soil with the plant food thus supplied right where the young roots will begin to forage in a few days. The effect will be quite observable in the greenness and rapid growth of the plants.

After this, the soil should be strictly undisturbed, except on the mere surface, so that no roots will be broken by the too deep work. The exploded idea of the value of root pruning did more harm and still does more harm than any other mistake in this direction.

Written for THE AMERICAN FARMER.

THE FARMER'S FRIEND.

A Good Word for the Despised Crow.

The General Belief that He is the Enemy of the Farmer Contradicted. Losses of Cultivated Fruits by the Crow are Trivial.

BY J. G. CHALLICE.

Officials of the Department of Agriculture, after exhaustive investigations, have submitted to Secretary Morton a report on the economic status of the common crow of the United States. The report is based upon a carefully-conducted examination of the stomachs of nearly 1,000 crows, and exceedingly interesting conclusions have been reached.

It is stated by the experts that the most serious charges made against the crow are:

1. That he pulls sprouting corn.
2. That he injures corn in the milk.
3. That he destroys cultivated fruits.
4. That he feeds upon the eggs and young of poultry and wild birds.

All these charges, thus perferred, are sustained by the stomach examination, so far as the simple fact is concerned that crows feed upon the substances that have been named. But the extent of the injury done these products and poultry is a very different matter, and is one that needs explanation.

The total quantity of corn eaten by a crow amounts to about 25 per cent. of his food. In young crows, however, it is only about 10 per cent. Leaving the young out of consideration, it may be said that in agricultural districts one fourth of the food of the crow is corn. But less than 14 per cent. of this corn and only three per cent. of the total food of the crow consists of sprouting corn and corn in the milk. The remaining 86 per cent. of the corn, or 97 per cent. of the entire food consumed, is chiefly made up of waste grain picked up here and there, mainly in Winter, and of no economical value.

CULTIVATED FRUITS AS FOOD.

The experts of the Agricultural Department concede that the loss of cultivated fruits by the crow is trivial, but nevertheless it is a fact that can not very readily be overlooked without some comment. Crows are by nature fond of fruit, and they as a rule play havoc when in someone's orchard, especially when fruit is ripe and delicious. They seem to be passionately fond of it, especially in the evening, it seeming that they eat it as a desert. Fruit forms about 15 per cent. of the food consumed by the coal-black fellow, and it is safe to guard your trees from them.

They say also that the young of poultry and the eggs of wild birds form only a small portion of the crow's meal, and that the loss sustained by this vice amounts to comparatively nothing. The crow is given a great deal of credit by many farmers for the good work he has done in destroying insects. The officials state that 26 per cent. of the food of a crow is insects, the most prominent of which is the grasshopper. Beetles, cut-worms, wood-worms and ants form a good part of this 26 per cent. It is shown that during the beetle season, which generally comes in June, the time at which crows nest, that this insect is consumed more than the ones above mentioned. They are used to feed the young, and form a large part of the young crow's food. In summing up the benefits and losses resulting from the food habits of this bird, it is clear that the good exceeds the bad, and that the crow is a friend rather than an enemy of the farmer.

LOCALITIES IN WHICH THEY THRIVE.

The localities in which the crow thrives are from the Gulf border to north latitude 63. They are quite numerous and prolific in the well watered and marshy regions of the East, but in the arid districts of the West and in the deserts of Texas and California they are rare and almost unknown. They are classified as the common crow, fish crow, raven, and white-necked raven. The fish crow is generally found where large bodies of water exist, and is quite prominent along the Atlantic Coast from Long Island southward. The white-necked raven is known only in Arizona, New Mexico and the watered southwest. Although they are migratory birds, some of them may be found in Midwinter as far north as Manitoba, Minnesota and Wisconsin. They roam in a very queer manner sometimes, and their movements are hard to predict. They as a general rule commence their journey south immediately after or during that season of the year known as "Indian Summer." They are very fond of ani-

mal food, and are successful in their quest along the seashore and the banks of our large rivers. Numberless thousands of them are to be found during the Winter months in the vicinity of Chesapeake Bay, and its tributaries and along the Ohio, Mississippi, and the Missouri Rivers. The Arkansas River also is the home of a good many, and many frequent the banks along the Red River.

They are among the first of the migratory birds to come northward in the Summer time, and are at present coming this way in large numbers. They often start their journey northward as early as February by sending out skirmishers, who reconnoiter by twos and by half-dozen. At last, however, when leaving Winter quarters they depart in large numbers, but before they arrive at their destination they part and come into the place they have chosen as a home in droves of five and 10, and in many cases come unaccompanied. Crows often when on a journey fly until it becomes quite dark, provided they have some roosting place in view, but as a general rule they go to roost about sunset.

They are claimed to be by these officials notoriously clammy birds; and although two nests are seldom built upon the same tree, it is noted with some interest that half a dozen pairs of them build their nests within sight and hearing of each other, so that they might unite for mutual protection and common protest. Their habits are such that there are places when not less than 10,000 crows spend the night at one place. In one instance it was estimated that 200,000 of these black fellows occupied one roost.

During the Winter season thousands of them have made their homes in Arlington Cemetery, where they flock in thousands, ten of thousands, in some instances, hundreds of thousands, at every nightfall. They often settle in the trees at dark and in the early morning can be seen rising in droves into the clouds like winged armies. From September until March their number is greatly increased by the stragglers who come from the northern latitudes.

SOME OPINIONS.

The older American farmers speak of the crow as an enemy to the small birds; and after describing in an exceedingly interesting manner the crows attack upon a poultry-yard, a farmer of some note said: "The old black fellow is as fond of the eggs of other birds as is the cuckoo, and in the Spring when he makes his appearance among the groves and low thickets, all the feathered songsters are instantly alarmed, for they well know the depredations and murders he commits upon their nests, eggs and young. The black marauders are disliked by many farmers, also, because they injure their crops, but when we consider the good they do us in eating insects, we are satisfied with the comparatively little damage they do. The crow is indeed a very interesting study, his habits, his life and his doings are worthy of noting, and should be noticed by all interested in farming and farm life."

Protection and Free Silver.

EDITOR AMERICAN FARMER: I am very busy irrigating, and have but little time for thought on protection or free silver, but would like to say a word in answer to "A Plain Farmer" and his skeleton.

First, I will say I believe in Protection, and am American in the full sense of the word. I want to see the producer get his share—not all for the manufacturer, as heretofore. I think if my friend J. W. C. or others will get the statistics they will find that the prices of wool and silver have declined about equally since 1873, or since specie payment was resumed; that is, an ounce of silver will buy as much wool as in 1871, as well as other productions of the farmer. And as silver was about one-half of our money when it was demonetized, prices were bound to fall in proportion; or, in other words, the price of gold went up. Hence it takes more wool, corn, or silver to buy a gold dollar.

Let us see how much promissory money we have in the world—something over \$7,000,000,000. Now, about one-half is silver, which is promissory money. All the silver available for coin would hardly make a warehouse to store Montana's wool clip this year.

Then, let us consider the cost of production and supply. It is quite conservative to say that every ounce of silver costs \$1.50 per ounce. No matter what the demand, the supply is very limited, and must continue so. I leave it to your intelligent readers to say how it would be with wool.

I do not deny that free trade, or that policy, had much to do with the decline of prices, but little compared to silver; or, in other words, John Sherman and his little trick.

Think of the mines and mills that closed; of men discharged, families turned out of home to beg, steal, or starve. Can one buy without money? No; not if prices were as low again. Then, what do we see—robbery, burglary, and stealing. See our vast army of tramps. The vast majority were at one time good, honest, hard-working men, whose hands did their full share of producing, and stood on their manhood with head erect. Others, I admit, will not work, and are a slander on real manhood.

If we can get our silver coined, then can we buy your product, whether it be high or low tariff. I think most of the Silver States are in favor of high tariff.

Of course, H. M. Teller, and our champion, Carter, and others, fought the so-called high tariff. But why? The Hon. T. H. Carter told them in the Senate chamber his reasons for so doing. I fail to see how the so-called Silver States are to be benefited much more than the State of Indiana, or any other producing State. What is good for one is good for all, except Wall street, Cleveland, and their clique. Yours truly for Protection and Free Silver—J. W. Goodson, Stevensville, Mont.

Clothes for the Skeleton, by a Texas Farmer.

EDITOR AMERICAN FARMER: With your permission I will clothe the skeleton for Mr. Clarke, of Indiana.

The wool growers of the United States need and ought to have a duty on the importation of foreign wools sufficient to protect them; said duty ought to be a certain number of cents on each pound of wool imported.

The Britannica Encyclopedia says that the demonetizing of silver enhanced the value of gold 25 per cent; in other words, it caused a shrinkage of value of 25 per cent. It increased our burdens, taxes, dues, debts, 25 per cent. It was the producer, the laborer, those who toiled with their hands, who had to bear that burden, and it was the moneyed class—the salaried class—that got the benefit of that 25 per cent.

The same authority further says, that about one-quarter of the yearly product of silver was coined; consequently the market for that quarter was destroyed, silver was doubly hit, its market destroyed, and the measure of its value increased. Now, restore silver to its former place—not for the benefit of the miner, but for the benefit of the producer, for the benefit of every laboring man and woman in the United States.

The restoration of silver as money will reverse the above process. There will be a general rise in all values, but gold, as silver is coined, and no class will be harmed by the rise in value, except the class that got the benefit of the shrinkage. Instead of coining the silver for the owner, the better way would be to buy it at its market value as long as it was below par, but coin it at the rate of 16 to 1, and put it into circulation; it will soon be par, and the farmer of Indiana will soon receive the benefit of it in the rise of his farm products.

I do not call the above plan paternalism; I call it justice.

I am not a woolgrower. I do not own a sheep. I have no interest in a silver mine. I am a cotton planter. The first bale of cotton that I sold in Texas I received 11 cents per pound. The last bale, five cents. All the time the decline in cotton and silver has been about the same. It is not over-production that has caused the decline in cotton; it is the destruction of the volume of currency. The destruction has enhanced the value of gold, and cotton had to give way, in order to fill the coffers of the banks of Wall and Lombard streets. I want justice; turn the tables; restore the volume of our currency.—T. P. LOWRY, Bryan, Tex.

Measuring Hay.

The principle on which stacks or mows of hay are measured for weight is that the weight of one cubic foot of hay multiplied by the number of cubic feet in the stack to be measured will give the total weight. There are so many shapes of stacks that rules for all cannot be given, but knowing how to measure any kind of stack by the rules of arithmetic, the cubic feet contained in it divided by the number of cubic feet in a ton will of course give the figures desired. Timothy hay and clover in a barn mow or a stack well settled requires 600 feet for a ton, clear timothy 450 feet, common mixed meadow hay 700 feet, all clover 800 feet. Of course, these estimates are only approximate; the guesser must consider whatever variation there may be in the kind of the hay, whether it is coarse and heavy or fine and light, or green or ripe. Experience is easily gained by estimating a few stacks and weighing them. The rules for finding the number of cubic feet in any solid body will be found in any good school arithmetic or mechanic's guide to mensuration.



Pen Notes.

Black pigs usually have tougher skin and are less liable to skin diseases than white ones.

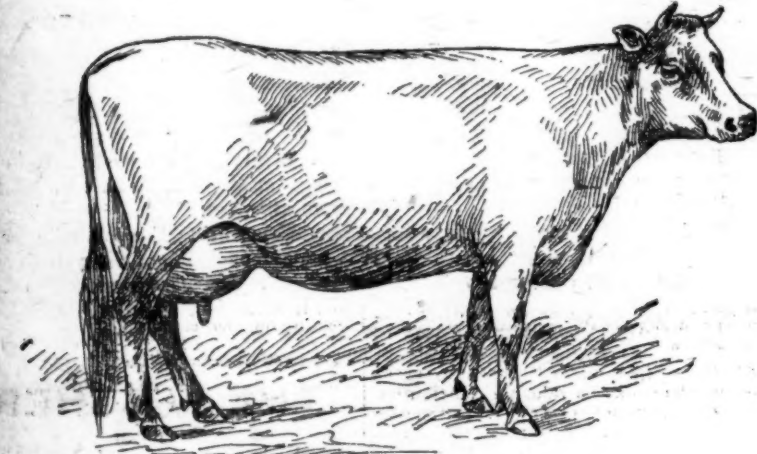
Most diseases among swine start from a filthy pen. Undoubtedly hog cholera started there. Disease germs live and grow in filth, and the sickness of one contaminates the whole herd.

Not only on trees is the sprayer useful, but it is good for preventing or destroying vermin on stock. A kerosene emulsion thus used will reach every portion of the body, and but a small quantity is required. It does not irritate the skin, as will the kerosene unadulterated.

Many hogs are starved into eating old stuff actually hurtful in its character. Half-decomposed food can do no animal good; so-called slops should be sweet at least. Purify the pails often, and give the swine clean, nutritious food, and they will leave many unhealthy articles they now eat.

The question is often to determine whether the gain repays the labor in grinding and cooking food, and yields a profit on the investment in the outfit. No question about a mixed ration giving the best results, and when advantage must be taken to make the most of the food, nothing will make a better saving than grinding.

When it dawns on the mind of the thinking farmer that there is more in the pig than in the older animal, and that the younger he feeds him the greater the return for food consumed, he is in a frame to think favorably of growing Fall pigs. If they are not grown, the sows must be carried at a steady expense, without an adequate return.



Exile's Gretchen.

The handsome Jersey cow Exile's Gretchen, 79245, whose portrait appears herewith, has a butter record of 16 pounds 15 1/2 ounces. Her dam, Exile's Lucy, had a record of 15 pounds 7 1/2 ounces. Exile's Gretchen has 75 per cent. of the blood of old Exile of St. Lambert. She is a very fine young cow, a good representative of the Exile family.

Live on Pigs.

These parasites may be quickly got rid of by applying the emulsion made as follows: Take a quart of crude petroleum or kerosene and add to it the same quantity of hot water in which half a pound of soap has been dissolved; beat it or shake it until it is like cream, and sponge the animal with it, using a brush to get it well into the hair. This is useful for all animals.

Experiments in Cattle Feeding.

The finely finished lot of steers fattened at the University State Farm are now held for sale in dressed form in the shambles of the Twin Cities. These animals, some 20 head in all, are two and three years old respectively, the major portion of them being nearer two than three years. The average live weight was about 1,250 pounds. Some of them were fed to determine whether a moderate or a heavy meal ration is the best in a prolonged period of feeding. Others were fed to show the relative value of different foods in fattening, and yet others to test the value of oil-cake as a finishing food when fed in large quantities along with ground corn.

This year, again, it was found that steers fed an average of 10 pounds of meal per day during the entire fattening period made at least as much gain during the five months of the experiment as those fed an average of 14 pounds per day. The feeders of the State use much larger quantities of food, as a rule; hence the inference that much of the food thus used must be wasted. In other words, when animals are being finished they will take more concentrated food than they can properly digest if it is fed to them. It was found that a free ration of oil meal and corn produced extraordinary gains for a short period, that is to say, for about 70 days, but that if continued much longer than the period named the animals began to get shaky on their limbs. In other words, they could not be carried much longer than 70 to 80 days without a modification of diet.

Breeding Polled Cows.

The apparently greater virility of the polled breeds when bred with horned cows seems to tend to the production of a majority of polled calves, and in this way it is easy to get up a herd of polled cows. The cross between the red polled Norfolk bull and the Ayrshire or Jersey cow, and that of the polled Aberdeen on the shorthorn, both produce excellent calves, almost all polled. The cross-bred cows have been found to be very good dairy animals.

Stable Talk.

Not a quarter of the usual number of mares were bred this season, and if this thing goes on a little longer, the effect of it will be seriously felt, for it takes four or five years to raise a generation of horses.

Last year the French Government purchased 70 stallions of the French trotting families. The average price paid was \$1,550, and every dollar of this large aggregate sum went direct to the breeders. This is practical encouragement, and it is little wonder that the French breeders of horses are so prosperous.

Very moderate and careful work is all that should be required of youngsters, and more especially of yearlings. They may doubtless be taught much without great injury, but yearlings should not be raced at all, because in a race there is always the temptation to drive them faster than they should be driven.

Yard Echoes.

It pays well to carry the stock upon green food close up to the beginning of Winter, but this cannot be done unless some forethought is given to the matter in the Spring and Summer. To provide against short pastures at the close of the season, sow millet or Hungarian grass or sweet corn at the proper intervals.

It has been said a steer will put on one pound of fat for every seven pounds of good food given; but only the improved breeds or good grades will make such gain, and if farmers would only look more to rapid gain, would breed for it and feed for it, they would make more money out of their stock. No use figuring on the scrubs at all.

Irritation of the Skin.

This is a common disease in cows that are fed liberally on grain food, especially when cottonseed meal is given. It would be desirable to vary the food of the cows at all times, and not confine them to one special ration all the time. The appetite is better for the change, and the food is better digested. Cottonseed meal should never be given in larger quantities than two pounds a day—indeed, under the new process of extracting the oil the meal contains so much protein that it can no longer be considered as an oil meal at all, and the excess of protein is apt to produce this congested condition of the skin complained of. It is therefore advisable not to use it at all, but to feed cornmeal with an equal quantity, or half as much, of bran. The best staple food for cows in the form of grain is unquestionably pure cornmeal, of which from eight to 12 pounds a day may be given with perfect safety. The constant and unchanging quality of this food enables the feeder to know precisely what he is doing, while the uncertainty of the purchased foods leaves him always in doubt and in risk.

Cross of Polled Bulls on the Jerseys.

The Jersey-cow cannot be improved by mixture with any other breed, unless it be the Ayrshire, which is very closely related by character, yet not by blood, to the Jersey. There is no polled breed that would make a desirable cross on either of these. The way to get the advantage of the absence of horns most easily is to dehorn the calves when a month old by the caustic-potash method. This is effective and easy, and there is no wounding or pain in it. It is not probable that the dehorned Jerseys would breed hornless calves. We have been docking lambs' tails for hundreds of years, but a tailless or even a short-tailed lamb would be a great curiosity indeed, for not an instance of one has ever been recorded. If all the Jersey or other bulls were worked—as they might be with profit—this complaint of the danger from the horns would never again be heard of, and the bulls would be doubled in value in every way.

Caked Udder in a Cow.

The trouble with the cow is doubtless due to the sucking of the calf, which does not suck the teat dry. It is a bad practice to let a calf suck a cow, as it spoils the cow for milking and gives the calf an inclination to bad habits afterward. The treatment of the cow should be as follows: Give her a pound of Epsom salts, dissolved in some oatmeal gruel; bathe the udder in hot water, rubbing it well with the hand; after wiping it dry, apply camphorated soap liniment. If the milk cannot be drawn from the teat which the calf will not suck—and no blame to it for this, for a calf knows when the milk is not good—take a small syringe and inject into the teat half a cupful of solution of common soda, leave it a few minutes, and then milk it out with the dissolved thick milk.

Rheumatism in a Cow.

At this season of the year—indeed, at all times—cows are subject to attacks of rheumatism on any sudden change of the weather, but more so if they have been exposed to a cold rain after much heat. The disease appears as weakness in the limbs and inability to stand or move, from stiffness in the joints. It changes from one limb to another, and after a time disappears. The treatment is to give 30 drops of tincture of acetic acid in some water or warm gruel, repeated after six hours; give warm, fomentation to the disabled limb, followed by a good rubbing with soap liniment. A dose of one pound of Epsom salts may effect a cure at once in simple cases, and may be tried before the acetic acid is given. Dry rubbing of the limbs with a woollen cloth is often helpful.

Inflammation of the Bowels in a Cow.

The discharge of white matter and blood from a cow, with stoppage of the milk and hard breathing, indicates intestinal fever and inflammation. This is a serious disease and calls for good treatment at once. The liver is generally implicated, and at times the animal suffers from lameness and stiffness of the limbs. The treatment is to give a brisk purgative, as one pound of epsom salts, followed by two-ounce doses of extract of dandelion (taraxacum) with one ounce of Peruvian bark daily in a bran mash. The feed should be light, but nutritious. Some roots, chopped, would be useful.

Malformed Calves.

It is a very rare occurrence to have three calves in one year from three cows and all malformed. The singularity of the case suggests that the bull must be to blame for it and has in some way inherited the irregularity. There is no reason why the cows should not be bred again, as the accident may not occur any more. The case is a very rare one, and no explanation can be given of the freak of nature. Such births are called monstrosities.

Sleep

To be refreshing must be natural. Hood's Sarsaparilla gives sweet, refreshing sleep; because by purifying the blood, it puts the whole system in a healthy, natural condition.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier. Hood's Pills are the only pills to take with Hood's Sarsaparilla.

CAVALRY HORSES.

The Government a Hard Customer to Suit.

There are over 16,000,000 horses in the United States, and yet, according to Capt. J. B. Aleshare, Assistant Quartermaster, U. S. A., the Government finds it difficult to procure the 700 to 3,000 animals needed every year for the cavalry service, writes a correspondent of the Louisville Courier-Journal. This seems singular, but it is true. Capt. Aleshare, accompanied by an Army Veterinary, has scoured Illinois, Missouri, and Kentucky, where the blending of thoroughbreds and trotting strains has evolved a horse peculiarly adapted for the service.

It has been the custom of the Government—every year to buy cavalry horses by contract, but this method has been so unsatisfactory and accompanied by so many perplexing difficulties, it is not unlikely that the purchases hereafter will be made in the open markets by agents of the Government. A great deal of money has been lost by contractors and their bondsmen on account of the rigid requirements and the failure of the bidders to compete with them. The Government would advertise for so many hundreds of horses to be furnished in lots of different numbers and award the contracts to the lowest bidder. The contractors would be compelled to give bonds for the faithful performance of their obligations, and when the horses were examined they would be compelled to pay the difference in cost between the animals rejected and those bought in their stead in the open market by the Government agents.

An idea of the rocky road traveled by some of these contractors, as well as an illustration of the rigid requirements upon the part of the cavalry service, may be gathered from the fact that in one consignment from a contractor in a certain State only five out of a total of 89 head delivered were accepted by the Government Veterinary.

The model cavalry horse is, in color, either bay, sorrel, black or gray, sound, well bred, and of superior class, gentle under the saddle, free from vicious habits, with free and prompt action of the walk, trot and gallop, without blemish or defect, of a kind disposition and of easy mouth and gait. He must be a "gelding" (mares not taken under any circumstances) of uniform and hardy color, in sound condition, from 15 1/2 to 16 hands high; weight not less than 950 nor more than 1,150 pounds, from four to eight years old, head and ears small, forehead broad, eyes large and prominent, vision perfect in every respect, shoulders long and sloping well back, chest full, broad and deep, forelegs straight and standing well under, "barrel" large and increasing toward flank, withers elevated, back short and straight, loins and haunches broad and muscular, hocks well bent and under the horse, pasterns slanting and feet small and sound.

A horse five years old will not be purchased unless he is an especially fine animal, well developed. Each horse is subjected to a rigid examination, and any animal that does not meet the requirements in every respect will not be purchased. So it can be seen that a horse which meets the cavalryman's fastidious taste must indeed be a model of equine excellence. Much stress is placed upon the intelligence manifested by the candidate, both in expression and action, and there are certain peculiarities in the "face" and eyes of a horse which, to the expert, denote the fool, and stubborn brute and the devilish animal. And the singular phase of the system is that while the cavalry horse must be perfect in shape and faultless conformation, he is purchased at from \$125 to \$250, comparatively small sums for even desirable "roadsters." This, however, is explained in a measure by the fact that the cavalry horse is useless for breeding purposes, and, as a rule, not fast enough as a trotter to make a race horse.

In the United States cavalry service there are 10 regiments of 12 troops each, with 60 men to the troop, not counting officers, and there are over 7,000 horses in the service.

The average working life of the cavalry horse is about 15 years, and about 10 per cent. of those in the service die or are discarded every year. The horses bought every year are sent at once to the different forts and stations, and to the riding school at West Point, where rough and fancy riding is taught, and are put to work without delay, the soldier taking the green animal and commencing its education. Each cavalryman trains and cares for his own horse, and no discrimination is made in the distribution, the soldier boy out on the plains getting just as good a mount as the dandy who rides the gay thoroughbreds of the capital.

The Alfalfa Crop of Nebraska.

The alfalfa crop in Nebraska has grown to be an important factor in the agricultural interests of the State, and so suddenly has this new crop industry sprung into a position demanding public recognition from a commercial and money standpoint, that even our own people have not been able to keep up with its rapidly-spreading acreage as it has widened out, year farm and ranch. The acreage of only 20 Counties was returned last year, at \$1,010. Estimating this at \$40 per acre for the seed and hay, would give a value of over \$2,000,000 to the alfalfa crop of those 20 Counties named. This at the lowest possible estimate that can be placed upon the acreage, not included, will bring the alfalfa crop value of Nebraska up to \$2,500,000 for 1895, with a prospective increase in acreage for 1896 that will place the money value of our 1896 alfalfa crop at \$4,000,000. In every County where alfalfa has been tested the acreage is to be increased from 25 to 150 per cent.—Omaha (Neb.) World-Herald.

SHEEP AND WOOL.

Shearings.

The best time to buy is usually in the Fall.

Be inclined toward the sheep that appears to be better every time it catches your eye.

Never take an ill-doing sheep, even if it is cheap, with the expectation that it will become right.

The wool-growers, wool-dealers and sheep-breeders of New Mexico will meet in Convention at Las Vegas, July 7.

In purchasing a ram get one fully developed, strong in bone, straight shaped, and thoroughly typical of his breed and sex.

The purchaser will find it to his interest to select sheep from the field, and thereby shun those that have been fitted for show.

Do not purchase sheep that you have to trust in for proper development. It is only the experienced breeder that can forecast development.

There is no sheep that embodies perfection in sheep qualities. Judging between different sheep is a checking of weakness and a balancing of qualities.

In selecting sheep, if possible handle them, so that you may know how much of their form is due to themselves and how much to the shears. Select as critically as you can to a chosen type. Uniformity is a cheap feature for you to buy, and yet a valuable one in a flock.

Strictly speaking, it is the ewes that most need to be weaned, the lambs really weaning themselves as the milk of the ewes falls off. The ewes are most in danger at this weaning, especially those which have been giving the most milk. To take the lamb from such ewes as this and leave the ewe to her fate is mostly to lose some of the best sheep in the flock, for the ewes that rear the best lambs are not only good themselves, but they are reproduced in the lambs.

As a rule it is not safe to leave the weaning to accident. The lambs should be taken from the ewes gradually, that is, put into a separate pasture in the day and let into that with the ewes at night. Every day the ewes are to be examined with care to see that none is left with a full udder unattended to. It does not follow that the lambs are to be depended upon to do the needed milking; the shepherd should do it himself if it is required, and not leave it to a lamb whose appetite for milk has been lost, even in part. And, moreover, the fitting of the ewe for the next lamb may well be begun much sooner than is generally the case, and this calls for quite a long interval between the weaning of the calf and the company of the ram. The whole condition of the ewe is to be changed, the milking function is to be completely obliterated before the breeding function is once more brought into action.

Dodge on the Decrease in Sheep.

Mr. J. R. Dodge, the former Statistician at Washington, holds that the present Government estimates of the number of sheep on hand Jan. 1 is several millions higher than the facts warrant. Mr. Dodge is an expert statistician, and his opinions on a matter of this kind are worthy of perhaps as high credit as any man's in the United States. It would not surprise us greatly if events should prove that the estimates on all kinds of live stock are too high. The amount marketed is only one evidence of the total numbers. On a falling market and under conditions such as at present prevail, the numbers marketed are a much higher per cent. of the total number of stock than on a market that has been rising for some time and under conditions of general prosperity. The stockmen have been driving down a long, narrow lane, but it will turn one of these days.

The Second Best Silage Crop.

It is difficult to say which is the second best crop for this use after corn. Perhaps it may be mixed oats and peas, which will yield half as much weight as corn will. But where the season is short for corn, some of the early kinds that will mature for this use in 60 days, such as the Narragansett or other small variety, may be planted in rows two feet apart and make 20 tons per acre on good soil. After oats and peas, millet, which will mature in two months, may be grown. It is one of the disadvantages of the silo in a northern locality that all the best plants for it are not hardy. In place of it, however, roots may be very profitably grown.

The Time to Out Hay.

Prof. Thos. Shaw: This is all-important. Alfalfa should be cut when the first blossoms appear. All the clovers are at their best when in full bloom. The farmer should not delay cutting until any of the heads begin to turn brown, if such delay can possibly be avoided. Timothy is perhaps best cut at what is termed the second bloom, that is when the blossoms remain only on the tips of the heads, and for cattle it should be cut even a little earlier. Native upland hay should be cut as soon as fully grown, and the same is true of the hay of low lands and sloughs. But on such lands hay will longer retain its succulence than on the uplands.

Culture and Feeding of Rape.

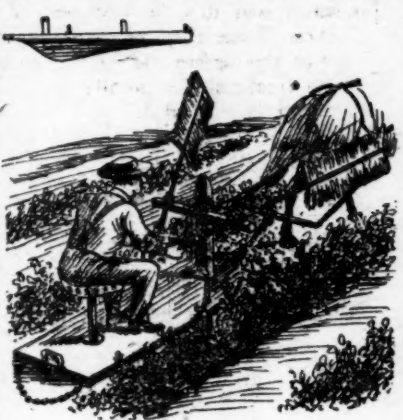
This crop may be sown in the late Summer or in the Spring. Three pounds of seed per acre is the usual quantity. It is best sown in drills 18 inches apart, as turnips are. It is fed to sheep by cutting it and giving it in racks in a yard, or the sheep are pastured on it, being confined in narrow strips by hurdles or a portable fence, which is moved on as each strip is eaten down.

PERUVIANA is a sure cure for Kidney & Urinary Diseases, Rheumatism

Discovered by a distinguished expert, Peruvia is a sure cure for all cases of Kidney & Urinary Diseases, Rheumatism, Gravel, Bright's Disease, Dropsy, Neuritis, and all other ailments of the urinary system. It is a powerful diuretic and cathartic, and its use is recommended by the highest medical authorities. It is sold by all druggists and chemists. Price, 50 cents per bottle. Write for free trial bottle to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

Insect Remover and Destroyer.

A new and improved machine for the removal of potato bugs and like insects from vines has been patented by Mr. Washington Reeder, of Lake City, Mich. The invention consists of a machine with a body shaped substantially like the hull of a boat, having a pointed front and a rounded keel as shown in the illustration. An upright mast is provided in front of the driver, upon which is fitted a cross bar, at the



ends of which are pivoted two oak-leaf arms, which project on each side of the machine and terminate in brooms or brushes. The inner ends of these arms have suitable handles which can be grasped by the driver, and he is thereby enabled to beat and brush the bug-infested rows of potatoes on each side as he drives the machine through between them. At the front central portion of the body of the machine a clevis is provided, to which the machine may be attached. As the device is driven through a potato field the bugs are brushed into the space between the rows and crushed by the passage of the body of the machine over them.—Scientific American.

Buy \$1.00 worth of Robbins' Floating-Borax Soap of your grocer. Send wrapper to Robbins Soap Mfg. Co., Philadelphia, Pa. They will send you, free of charge, postage paid, a Worcester Pocket Dictionary, 350 pages, bound in cloth, profusely illustrated. Offer good until August 1st only.

Why the Silo Pays.

Until every farmer has a silo it is in order to preach the silo, so we beg those who have silos to bear with us if we seem to repeat self-evident truths. Remember what an awful lot of preaching it takes to save a few sinners, and have patience; or do better, help us spread the truth.

1. The silo stores away corn more safely and more permanently than any other plan. Silage is practically fire-proof, and will keep in the silo indefinitely.
2. Corn can be made into silage at less expense than it can be preserved in any other form.
3. The silo preserves absolutely all but the roots of the corn.
4. Silage can be made in sunshine or in rain. Unlike hay, it is independent of the weather.
5. When corn is ready for the silo there is but little farm-work pressing.
6. Corn is worth more to the dairy as silage than in any other form.
7. At least one-third more corn per acre may be fed on silage than on dried cornstalks or fodder.
8. Corn is fed more conveniently as silage than in any other form.
9. Silage is of most value when fed in combination with other food richer in protein. It is not a complete food.
10. Owing to its succulence and bulkiness silage is the best-known substitute for green grass, and is therefore especially valuable as a Winter food.—New Jersey Experiment Station Bulletin.

Flour from the Sorghums.

The great increase in production of non-sweet sorghums in the Transmissouri territory and their heavy yields of seed or grain are causing not a little interesting investigation as to what various uses it can be put, and this is especially true in Kansas, where a probably larger acreage of these crops is grown than in all the rest of the world. Within the past year considerable attention has been given to testing its milling and culinary qualities, and one roller-milling company at Marquette, McPherson County, reports to Secretary Coburn, of the State Board of Agriculture, having ground not less than 1,000 bushels of Kafr and Jerusalem corn for household uses.

From their experience these millers find that the Jerusalem corn "mills" to much the best advantage, and although the flour as at present made has not the extreme whiteness of that from wheat, Secretary Coburn vouches that it makes delicious biscuits, muffins and griddle-cakes, while the millers claim the Kafr flour is not quite so desirable for bread, but makes an excellent pancake flour. Important developments in the adaptability of these new grains for milling and food purposes seem likely in the near future. It is said that when ground on rolls by a gradual reduction process the bran is readily separated, but the difficulty of ridding the flour of its dark specks, so formidable from the cook's standpoint, has not yet been overcome.

The product of these grains is on the market to some extent as "Kafr-meal" "Kafr-flour," "Kaferina," "Kafr Graham," etc., and challenges comparison with any of the so-called "health" flours, at one-half or one-third their prices.

There were only 3,000,000 song birds killed last year for the purpose of adorning women's hats with their plumage.

Sunflower Seed Oil.

The oil of this plant is extracted by pressing the crushed seeds between hot iron plates in a powerful screw press, or a press operated by a cam. The oil is of a fine quality, much used by watch-makers and for fine machinery. The residue in the form of a cake is valuable for feeding to cows. The plant is as easily grown as corn, is under precisely the same sort of culture. The leaves may be stripped from the stems and cured for fodder, the stems make excellent stove wood, while the seed thrashed out of the heads makes the best of grain feed for horses, cows, sheep, and poultry.

(Cut this Out and Try It Yourself.)

\$25.00 Given Away

IN for **GOLD** Contestants.

Who can form the greatest number of words from the letters in CONTESTANTS by using them backward or forward? You are smart enough to make fifteen or more words in the word. Here is an example of the way to work. It is: Con, contest, on, test, to, eat, etc. The publishers of *Week's World* and *Excelsior Magazine* will pay \$25.00 to the person able to make the largest list of words from the letters in the word CONTESTANTS. Send in your list to the publishers of *Week's World* and *Excelsior Magazine*, 220 Broadway, New York City. The above rewards are given for words of three or more letters. The list of words must be sent in by the 1st of August. The publishers will select the winner. The winner will receive the \$25.00 reward and a copy of *Week's World* and *Excelsior Magazine*. The publishers will also publish the list of words. The publishers will also publish the list of words. The publishers will also publish the list of words.

AN Agent Wanted

In every town and neighborhood in the United States to solicit subscriptions for

American Farmer.

Liberal commission paid. Write for terms and sample copies at once.

THE AMERICAN FARMER, WASHINGTON, D. C.

Electricity

To Electricians: Workmen, Electricians, Plumbers, Gas Fitters, etc. Write for particulars to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

QUAKER FLOUR VAPOR BATH CABINET.

For sale by J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

1896 High Grade Bicycles

Shipped anywhere C. O. D., at lowest prices. Write for particulars to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

LECS & ARMS

With Rubber Feet & Hands. The Most Natural, Comfortable & Durable. Over 17,000 in use. Write for particulars to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

GET RICH!

Fortunes can be made by investing a small amount in the stock of the *WILCOX & COMPANY, BROKERS*, 829 Broadway, New York.

\$3 A DAY!

Send your address to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

A \$60.00 SEWING MACHINE FREE

Write for particulars to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

WANTED AGENTS

To sell *Locks & Keys*. Write for particulars to J. W. Peruvia, 22 National Bank Building, Cincinnati, O.

POULTRY PIGEONS & PET-STOCK



DISEASES OF POULTRY

Too Much Grain Disastrous—Roup and Its Treatment—Cholera and How to Treat It—Hints of Value.

It is at this time of the year that the poultry suffer the most with the worst of these diseases to which they are subject, says the New York Times. There are several conditions incident to the season which conspire to cause this. The close confinement, the more abundant feeding, especially of grain foods, and the absence of those natural ailments which they gather when going at large, not to mention the very prevalent unwholesomeness of their confined quarters, all together give occasion for the utmost care of the poultry keeper to avoid infection of the results of these causes which produce disease.

Doubtless the common excessive feeding with grain, and corn especially—which is the least fit food for a sole diet for any animal—with the confinement in too often unclean quarters, and mostly always damp and badly ventilated, furnishes the reasons for this unfavorable condition. The result is that diseases that are contagious happen here and there and are spread from the sources to other flocks in the neighborhood. The thoughtful poultry keeper might be able from these explanations doubtless so to guide his management of the flock or flocks as to escape the risks of the season. But really few persons are able, for want of experience, to take precautions from a mere recital of the risks which exist. Some special and particular information is necessary for this, and all the more so because of the fact that it is in those flocks that seem to be the most prosperous that diseases suddenly break out with the greatest virulence.

Constant watchfulness is indispensable for safety in this respect and the first symptom that should awake a sense of danger is the seeming content of the fowls, a sleepy, restless condition, in which they eat as usual, but which to the experienced show that there is something wrong which destroys the usual vivacity of the flock. This dullness is the first thing to occasion alarm on the part of the keeper. An examination of the usual bright red membranes in the comb especially, the birds eat slowly, dropping a grain now and then, and seem to swallow with difficulty. They stay long on the roost and go about as if dazed and undetermined which way they shall take. The head will be found hot, and the abdomen especially so, and

a curdy deposit in the throat and nostrils, having a foul odor, and interfering with the breathing. The head is swollen, and, of course, no food is taken. This is especially a result of filth and infection, and it is the best way to kill off those birds that are in a forward stage of the disease and bury them. The treatment is wholly antiseptic. The head is washed in hot vinegar, or in carbolic soap water; the throat is swabbed with a strong solution of chlorate of potassium, and after this is done a few drops of it are put into the throat to be swallowed. Sulphur is burned in the house until the fowls cough violently, when fresh air is let in. The whole flock should be given 20



BELGIAN SHEEP DOG.

drops of solution of hypophosphite of soda in the food twice a day, and the house is to be kept scrupulously clean. The food should be chiefly wheat, and but little corn for the grain; some chopped flesh is necessary, with fresh green vegetable food, as chopped cabbage. One meal a day, preferably the first, should be baked of boiled potatoes mashed with oatmeal, and lightly salted, with a fresh dash of pepper in it. Skimmed milk is excellent for the drink, and some crushed fresh bones should be given once a day. This kind of feeding, with the best sanitary arrangements in the house, and pure water for drink, will go far to secure immunity from this disease.

Cholera is the disease known as anthrax, and the same as that affecting swine. Indeed, the habits of swine and poultry are so much alike in general that they are very reasonably subject to similar diseases, and to this especially. The comb and wattles turn black, whence the name anthrax, which means coal. The blood is black, in fact, and this causes those membranes through which there is a large flow of blood near the surface to appear the same

which the liver is gorged with bile and its function is arrested. The bowels are then disturbed by the presence of the bile and undigested matter, and the action of them is greatly increased, with cramps and spasms, due to the increased effort to expel the crude, offensive matter. The best thing to be done is to help nature in this, and to give a purgative, such as a small rhubarb pill, at night, inclosed in a small ball of butter or lard. As much powdered rhubarb as will make a pill, when mixed with molasses, as large as a sweet pea is sufficient, and one should be given every evening. The food should be soft and nutritious, as oatmeal or linseed, boiled thick, and given in balls, if not eaten readily. This medicine is recommended mostly for the fowl when first taken, and if a few only are affected the whole flock should be treated, as a precaution.

As a rule, there is but very little risk of infection, even from a closely neighboring flock, if the fowls are fed and cared for as they should be, the house

push, there is very apt to be little of anything else except loss. There is every reason to believe that the farm hen should be the most profitable of all hens if her efforts to do man a good turn were only guided by an intelligent and attentive hand. Because of a lack of any suspicion that the hen would ever be the means of making him any money, the farmer permits her to shift for herself under all circumstances. To be sure, some farmers have a building they call the henhouse, but it generally leaks in Summer and is a bleak place in Winter. It is not a place for comfort nor health. Consequently the hens do not do good work. They run to the open cribs often and get too fat for laying eggs. A little every-day attention would remedy all these things. There is nothing like giving the hens a chance. Give the hen clean, dry quarters, plenty of good exercise regularly, the right kind of food, and make her comfortable generally, and you have a machine that will turn you out more money on the same investment, than any other on the farm. The only question is, will you do it?—*Nebraska Farmer.*

New Egg-Preserving Compound.

A Frenchman has taken out a patent for preserving eggs by dipping them in a solution of sodium silicate, 100 parts in boiling water, 1,000 parts, carrying three per cent. of carbonate of magnesia in suspension.

The Belgian Sheep Dog.

The Belgian sheep dog resembles much the Scotch Collie, but it differs in its ears, which are larger and stronger. The long-haired variety, generally black, with small white markings, is the highest prized.

WILD CATS FROM TAME CATS.

The Retrogression of Twenty Years Among the Felines of Goat Island.

It has taken about 20 years to produce the wild cats of Goat Island, the degenerative process commencing soon after the lighthouse was established there in 1875. It seems that the first keepers brought a number of cats with them, but with unrestrained liberty the animals gradually forsook the comforts of civilization. Goat Island is the home of thousands of birds and squirrels, and to this is possibly due the temptation of the cats to forsake the keeper's fireside. At first the cats would abscond themselves for days at a time, but the kittens were born at home. In time, however, they got over this, and lived altogether in the underbrush. After a few years the descendants of the first cats were so wild that they were afraid of human beings and made their dens in the crevices of the rocks.

From that time the cats became wilder, until now they are as ferocious as the terrible creatures of the mountains. They have increased in size and changed altogether in disposition. They are always seen in pairs, and appear to mate, as all species of the cat tribe do in the wild state. The cats live on squirrels, quail and sparrows, as well as such other small animals and birds as they can catch. They are supplied with water from a dozen springs in different parts of the island.

In addition to other changes the wild cats have become hostile to such tame cats as are brought to the island from time to time. They will attack them on sight and never stop until they have killed their victims. The chief destruction wrought by the wild cats is on the quail that inhabit the island. The "artful drummers" used to be there in abundance, but are now pretty well thinned out. The cats are constantly on the alert, and not only kill every quail they can catch, but often destroy whole nests full of young. To prevent this the light-keepers are always on the lookout for wild cats and shoot every one that comes anywhere near the house. As a consequence the cats keep some distance away, and the quail seem to know they are safe in that locality, for there are more nests there than in any other part of the island.

Many plans have been tried within the last few years to rid the island of the hungry, carnivorous pests, but the more they are persecuted with shotgun, trap, and poison the more rapidly they seem to multiply.

A Novelty in Irrigation.

"An irrigation company, with a novel plan for getting water, has been formed in Salt Lake," said James H. Bacon, President of the Bank of Salt Lake. "Some bright fellow who knew that the soil at the foot of the mountains in what is known as the West Mountain or Bingham Mining District was as rich as the best of Utah desert lands, learned also that the miners up in the mountains had to keep pumps running to prevent the lower levels from becoming flooded with water. So he said: 'Why not take water that is a nuisance in the mines and put it where it will do some good?' Capitalists were found to carry out a combined drainage and irrigation scheme. A tunnel has been started that it will take about a year's labor to complete. They propose to drain the Dalton and Lark mines at the 2,000-foot level for a small royalty and to turn the water loose over 2,000 acres of land which they have acquired. The land is worthless without water, but if there is enough water in the mines, and very likely there will be, the land will become worth \$100 an acre. It is certain that this tunnel scheme for getting water might be profitably applied in a hundred places on the desert where it never has been considered at all."

EXCHANGE.

EDITOR AMERICAN FARMER: Would like to exchange copper or iron specimens suitable for cabinet, or stone arrow-heads, for specimens of Confederate money.—*FARMER ARLEN, Lakeside, Mich.*

THE APIARY.

Humming.

A. C. Cook, Claremont, Cal., doubts if there is such a thing as poisonous honey.

J. L. Hubbard, Hendersonville, N. C., is certain that mountain laurel will not produce poisonous honey.

Dr. A. B. Mason has made an involuntary experiment, and found bees stings a sure cure for rheumatism.

John A. Brown, Columbia, Miss., thinks that the reports of poisonous honey come from eating "bee-bread."

C. C. Parsons, Bessemer, Ala., says that it is impossible for a bee to carry and store poisonous honey. It would kill her before she got to the hive.

The next meeting of the North American Beekeepers' Association will be held at Lincoln, Neb. The date will be announced as soon as arrangements can be made with the railroad.

The greatest secret about bee-keeping is to keep your colonies strong; watch them in the Spring, and don't let them die for the want of a little attention. Sometimes you can help a dwindling colony by taking them in time and giving them a little assistance from other colonies.

Dark honey, either comb or extracted, can scarcely be sold at any price in the Chicago market. Don't ship it, expecting to get very much for it. Better forward a sample first, and get a quotation for it before sending a whole shipment. If at all possible, dispose of all dark grades of honey in the home market.

Don't try to increase too fast, and don't think that because you see queens advertised as such wonderful breeders, there are not just as good at home; and sometimes you will find them better. Where a person has 20 or 30 colonies, there must be as much difference as there is in that many cows in regard to profit. You would raise your best calves, so you must rear your queens from your best colonies.

Planting for Honey.

The Doctor asks, What shall we plant? I answer, for our latitude:

First of all, lindens, for the following reasons: They are long-lived, native trees, very hardy, and originally produced more honey than all other plants and trees combined, and by proper selection of varieties they will give a steady flow for two months, with rare failure.

Second, they are the most beautiful shade or ornamental tree on earth, and require no trimming or pruning, but maintain a most beautiful form until death, when their bodies would again doubly repay the expense for raising them, aside from the honey and shade.

Perhaps in other localities some other tree might be more suitable for the purpose. We have 1,000 miles of public roads on each 100 miles square—sufficient room for 650,000 lindens, or 2,000,000 to each County, or 182,000,000 in our State; and it is thought our Legislature, at its next session, will pass a law compelling all land-owners to plant suitable shade-trees on said roads; and if so, why can we not have the lindens? Surely we can, if we make proper effort.—*R. S. RUSSELL, Zionsville, Ind.*

Growing Canagira.

Although canagira is usually propagated by means of planting the roots in a manner similar to that pursued in the cultivation of potatoes, it may be grown from the seed, though with some difficulty, and the consumption of much time necessary in producing a crop. The seed may be transplanted out of doors in the Spring or Summer or any time before the Fall rains, or they may be started in boxes and transplanted to the location in which they are to mature. The Director of the Experiment Station at Tucson, Ariz., states that small packages of canagira seed will be sent to all in Arizona applying for them and agreeing to report in full the result of the experiment with growing plants from the seed.

Perfumed butter is becoming very fashionable at American breakfast and tea tables, says the Chicago Record. The butter is made into pats and stamped with a floral design and is then wrapped in thin cheesecloth and placed in a bed of roses, violets or carnations arranged in a flat-bottomed dish. Over these is placed a layer of flowers, so that the butter patties are imbedded in flowers. They are then placed in ice, where they are allowed to remain for several hours. This butter is eaten with crisp Vienna rolls, accompanied only by a cup of chocolate or delicious Mocha.

How to Salt Butter.

W. C. Rockwood, of Genesee Co., Mich.: Perhaps every one who has ever made butter has been troubled with this at some time. The cause of the mottled condition which is frequently seen in butter is a disputed one, yet it is simple enough, after all.

As we all know, salt affects the color of butter. All butter takes on a deeper hue when it has been salted a few hours. Take a lot of butter from the churn in a mass, salt it in streaks by cutting down through it with the ladle and scattering salt freely where the ladle went, let it stand half a day before working and you will see a good illustration of mottled butter. In a few words, the explanation is this: Mottled butter is caused by uneven distribution of salt; nothing more nor less.

To avoid this the following plan is an excellent one, and one which is followed by many of our best butter makers today. Leave the butter in granules, wash with water cold enough to prevent adhesion, drain and salt while still in the churn, then revolve the churn or tip from side to side until the butter globules mass somewhat and the salt is evenly distributed.

By tipping the churn one way, then the other, the salt may be very evenly sprinkled on, or a wooden fork of suitable size may be used to stir it up, adding only a portion of the salt at a time.

The salt melts or dissolves the moment it touches the grains of butter and each grain is instantly coated with brine. Then, when the butter has drained a few minutes, remove it to the worker, press until moderately dry, and pack away. No further working is necessary, and there will be no trace of streaks or a mottled condition to be found.

Salting in the churn is sure to be a favorite method with those who try it. The amount of butter can be very closely estimated, as the amount from a given quantity of cream does not vary very materially from time to time. Nor is it essential to weigh out the salt each time. Measure out a pound of salt; usually a full pint of salt will weigh a pound, and it is more quickly measured than weighed each time.

Some adhere very tenaciously to the old way of twice working their butter, but once is a great plenty. If the salt is evenly distributed and the excess of moisture pressed out, that is sufficient and can as well be done at one operation as at two.

Nine thousand maple trees will be cut up this Summer on the upper Kennebec River, Maine, to furnish material for filling an order for 1,500,000 blocks for shoe lasts.

NEW PUBLICATIONS.

SEVENTH ANNUAL REPORT OF THE MISSOURI BOTANICAL GARDEN. Published by the Board of Trustees, St. Louis, Mo. All these reports are welcomed by every lover of plant-life as a valuable contribution to his knowledge and pleasure. It seems to us that the volume for 1896 is even more valuable than its predecessors, which is saying a great deal. The scientific papers contain an exceedingly valuable study of the "Juglandaceae of the United States," by the Director, Wm. Trelease, which presents in a compact form all our knowledge of the life habits of the hickories, pecans, walnuts and their kindred. This is followed by a similarly comprehensive study of "The Agaves of the United States," by A. Isabel Mulford, and this by "The Legulate Wolfias of the United States," by Chas. Henry Thompson. All these are beautifully illustrated by fine lithographs on heavy paper. Henry Wade Rogers contributes an excellent paper on "The Value of the Study of Botany."

SO GREAT HAVE BEEN the improvements in the way of new varieties in pruning and training, in marketing and in combating insects and fungi injurious to the grape, that after a period of barely a dozen years, since the last edition of this work appeared, it was found necessary to entirely revise and largely rewrite it in order to keep abreast with the times.

SUGAR BEET SEED. By Lewis S. Ware, editor of *The Sugar Beet*. Published by the author at 810 Walnut street, Philadelphia, Pa. Price \$1.

This is a valuable manual on the "production, requirements and selection of sugar-beet seed," by an expert whose abilities have received general recognition both in this country and in Europe. It is illustrated by 19 engravings.

Notes.

Kit-Kat, a weekly magazine of choice reading for the family. Price 50 cents a year. Published at No. 10 South 15th street, Philadelphia.

The Phenological Journal and Science of Health. Published at 27 East 21st street, New York. Price 10 cents a number, or \$1 a year.

Sixteenth Annual Report of the New Jersey Agricultural Experiment Station. Published at Trenton, N. J.

Many very attractive and beautifully illustrated articles are given in *Frank Leslie's Popular Monthly* for July, and also several excellent short stories. The leading feature is a description of General Robert E. Lee's



"Complete Manhood" AND "How to Attain It."

A Wonderful New Medical Book, written for Men Only. One copy may be had free on application.

part in the battles of Fredericksburg and Chancellorsville, written by Colonel John F. Garnett, of the Confederate States Army, and forming the sixth paper in the magazine's great "Lee Series." The article is profusely illustrated with portraits and battle scenes. Published at New York. Price 25 cents.

"The Landlord at Lion's Head," a new novel by W. D. Howells, will be begun in the issue of *Harper's Weekly* dated July 4th. Illustrations for this story have been made by W. T. Smedley.

ICE CREAM NOW MADE IN A MINUTE.

I have an ice cream freezer that will freeze cream perfectly in one minute; as it is such a wonder a crowd will always be around so any one can make from \$5 to \$6 a day selling cream, and from \$10 to \$20 a day selling ice cream. People will always buy an article when it is demonstrated that they can make money by so doing. The cream is frozen instantly and is smooth and free from lumps. I have done so well myself and have friends succeeding so well that I feel it my duty to let others know of this opportunity, as I feel confident that any person in any locality can make money; and you can call on all the ice cream freezers, and see for yourself. W. H. Baird & Co., 161 St. Highland Ave., Station A, Pittsburg, Pa. We will give you complete instructions and will employ you as a salary, if you can give them your whole time.

When writing mention this paper.

IN ALL AMERICA

BUT TWO OTHER AGRICULTURAL PAPERS

have credit for so large a circulation as is accorded

THE AMERICAN FARMER, WASHINGTON, D. C.,

and the publishers of the American Newspaper Directory guarantee the accuracy of the circulation rating accorded to this paper by a reward of One Hundred Dollars, payable to the first person who successfully assails it.

"THE SOUTHLAND QUEEN."

You ought to know what you are missing by not reading *The Southland Queen*, the only *RENEWED* publication in the South, the only *RENEWED* publication in the South, the only *RENEWED* publication in the South. How to raise quail, deer, and hares, and in fact how to make bee-keeping a success is taught in the school. One single copy is worth more to business than the subscription price for a whole year. A steam-heating factory, Roanoke's goods, *Madame P. N.* and all the supplies. You all know where to arrange for your quail and deer and hares, and in fact how to make bee-keeping a success is taught in the school. Address, *THE JENKINS ATCHLEY CO., Greenville, New York.* When writing mention this paper.

Send for free sample copy.

"THE FEATHER."

A New National Poultry, Pigeon and Bird Magazine.

PROFUSELY ILLUSTRATED.

Box 54, Station A, WASHINGTON, D. C.

SINGLE COMB WHITE LEGHORN EGGS from a vigorous strain of this egg-producing breed of fowls. \$1 per 12; \$2 per 24. Fair hatch guaranteed. No stock for sale. All purchasers well pleased. Circular for stamp. Address JOHN M. DALLER, Morgan Avenue, Holmes Manor, Washington, D. C. When writing mention this paper.

THE STORY OF CUBA.

BY BYRON ANDREWS.

NATIONAL TRIBUNE LIBRARY No. 9.

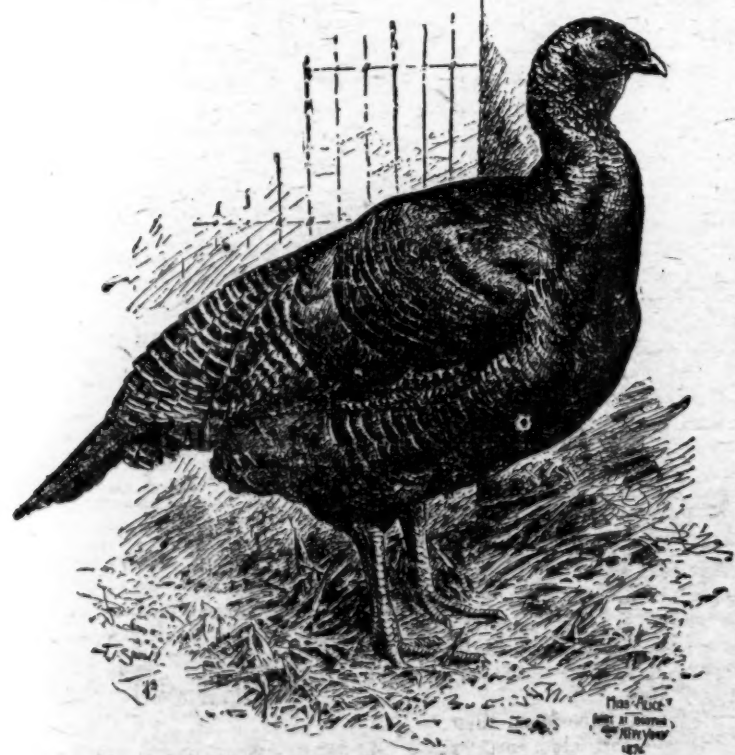
TABLE OF CONTENTS.

Early History, Products, Commerce and Population. Capture of Havana by the British. Slavery and the Slave Trade. Principal Cities of the Island. Cause of Cuban Discontent. The Ten Years' War. A Glimpse of the Interior with Gen. Grant. The Revolution of 1895.

LIST OF ILLUSTRATIONS.

Map of the Island. A Typical Spanish Volunteer. First meeting of Columbus and the West Indians. City of Havana. The Flag of Cuba Libre. Portrait of Gen. Cespedes. Portrait of Governor-General Martinez de Campos. Gen. Grant Travelling in Pinar Del Rio. Portrait of Jose Marti. Portrait of Gen. Maximo Gomez. Portrait of President Betancourt. Portrait of Vice-President Maso. Portrait of Gen. Carlos Roloff. Portrait of Lieut. Gen. Antonio Maceo. Portrait of Sr. T. Estrada Palma. Portrait of Governor-General Valeriano Weyler.

Sent postpaid for 5 cents; six copies for 25 cents. THE NATIONAL TRIBUNE, 1729 N. Y. Ave., Washington, D. C.



BRONZE TURKEY "MISS ALICE."

The largest hen in the world. Owned by Fisher Island Farm, New London, Conn.

often enlarged and puffy. These are the first symptoms of all the prevailing diseases, such as roup, anthrax—which is the common cholera, so-called—and dysentery. There are several other minor disorders which trouble the fowls at times in all seasons, but these are especially prevalent late in the Winter.

Roup is the same disease as diphtheria in human beings. Indeed, it may be seriously questioned if the human diphtheria is not sometimes communicated to persons by the eggs of diseased fowls, for it may be clearly understood that the eggs of a diseased hen are diseased in the same way as the hen herself. The whole blood is infected and the egg is, we know, a product of the blood, separated therefrom by the function of special organs for this purpose.

The disease is a purulent condition of the throat and nasal membranes, including almost always the eyes as well. The chief symptom is the formation of

color. The liver is badly disordered in this disease, and the gall is largely discharged through the bowels, giving the discharges a green-and-yellow color. The writer has found the hypophosphite of soda almost a specific in this disease. It is given in solution, in doses of one teaspoonful three times a day, and the food, if any is taken, may be mixed with the solution. But food is not needed, and is, perhaps, better withheld, so as to starve the disease for want of fuel for the fever. Plenty of cold water is given and the sick birds are best kept separately in coops for treatment. Ten days of this treatment has cured the large majority of cases. But, as eggs of diseased fowls will produce very painful disorder of the bowels in persons eating them, it will be the safe way to bury sick fowls out of the way, if by neglect the disease has been permitted to gain entrance into the flock, and to treat only the suspects in the way indicated.

Dysentery is due to over feeding, by

The Average Farmer's Hen.

The day ought to be forever gone by when farmers undertake a thing, as we say, on general principles. The rule in the business world is to calculate in cold figures the cost of an undertaking on the one side, and the advantages supposed to accrue on the other. But how many farmers have we ever heard of who were ever known to wonder even as to the probable cost of keeping a hundred hens a year according to the plip-shod methods common to the ordinary farm? The man who never figures on the cost of a thing never figures either on what he is going to get out of it. Where there is no thought, no plan, no

EVERYBODY WANTS IT.

A COPY FREE.

LIFE OF MAJ. WILLIAM MCKINLEY.

BY JOHN McELROY.

Everybody wants to know something authoritative and definite about Maj. Wm. McKinley, whose name is now constantly in all the papers and in all mouths. We have made arrangements to give the American Farmer's constituency this much-desired information. To every one of our subscribers who shall renew his subscription before June 1, and to every new subscriber who shall send in his yearly subscription—25 cents—before that date, we will send

FREE OF COST

a handsome booklet of 32 large pages, printed in large, clear type, and finely illustrated with portraits and other pictures, containing a concise, well-written, and reliable "Life of Maj. Wm. McKinley," by John McElroy. This presents in the best shape all the leading facts in the career of this great political leader, and contains a mass of valuable information which every American citizen, without regard to party, is eager to have. Everything in the book is first-class in all respects—paper, print, illustrations and literary matter. Remember that it will

ONLY COST YOU 25 CENTS

to get this and THE AMERICAN FARMER for one year. But you must send in your renewal or subscription before June 1. Address, THE AMERICAN FARMER, 1729 N. Y. Ave., Washington, D. C.

Established - - - 1819.
77TH YEAR.

THE AMERICAN FARMER.
"O fortunatus nimis sua i bona vorat agri-
cola." - VIRG.

Published Monthly at Washington, D. C., and
Baltimore, Md., by
The American Farmer Company,
1729 New York Ave., WASHINGTON, D. C.
SOUTHERN EDITION OFFICE:
232 East Baltimore Street, Baltimore, Md.

Entered at the Postoffice at Washington, D. C.,
and Baltimore, Md., as second-class matter.
TERMS OF SUBSCRIPTION.
ONE YEAR IN ADVANCE. 25 CENTS

Write for special inducements to club raisers.
Advertising rates made known upon applica-
tion.

Our readers will oblige us, when writing to
parties advertising in this paper, if they will
state that they saw the advertisement in the
AMERICAN FARMER. This is little trouble and
costs nothing, but it helps us, and is infor-
mation wanted by the advertiser.

When sending in subscriptions specify
whether for General or Southern Editions.
Those specially directed for the Southern Edi-
tion, all subscriptions will be entered for the
General Edition.

TO ALL TO WHOM THIS PAPER
SHALL COME.

Greeting: This
paper is sent you
that you may
have an oppor-
tunity to see it and
examine it, with a
view to subscribing.
We ask you to
compare its contents,
objects, and price
with those of other
papers, and see if
you do not come to
the conclusion that
you ought to have it;
that you cannot afford
to do without it. We
can assure you that
if you send in your
name for one year
that you will find it
one of the most profit-
able investments that
you can make. We
hope to make and keep
it so interesting that
every number more than
repays you for the
subscription price for
a year. Please call
your neighbor's atten-
tion to the paper.

OUR CLUBBING LIST.

The American Farmer Will be Sent
in Connection With Any Other
Paper or Magazine.

We will send THE AMERICAN FARMER
and any other paper or magazine in
the country at a reduced rate for the
two. The following is a partial list of
the periodicals that we club with:

Name of Periodical.	Regular Price.	With the American Farmer.
Our Little Monthly	\$1.00	\$1.00
Bayland	50	50
The National Tribune	1.00	1.00
American Gardener	1.00	1.00
Eden's Magazine	3.00	3.00
American Agriculturist	50	50
Countryman	1.50	1.50
Monthly Illustrated	2.00	2.00
Arena (including Art)	5.00	5.00
Century	4.00	4.00
Scientific Monthly	3.00	3.00
Lippincott's	3.00	3.00
Atlantic	4.00	4.00
Forum	3.00	3.00
New England Magazine	3.00	3.00
St. Nicholas	3.00	3.00
North American Review	5.00	5.00
Review of Reviews	2.50	2.50
Magazine of Art	1.50	1.50
Outing	3.00	3.00
McClure's	1.00	1.00
James Miller Monthly	1.00	1.00
Current Literature	3.00	3.00
American Amateur Photog- rapher	2.00	2.00
Short Stories	2.50	2.50
Esquire	1.00	1.00
Chautauquan	2.00	2.00
Babyhood	1.00	1.00
Domestic Monthly	1.00	1.00
Fanciers' Review	50	50
Frank Leslie's Budget	1.00	1.00
Popular	3.00	3.00
Pleasant Hours	1.00	1.00
For Boys and Girls	1.00	1.00
Countryman	1.50	1.50
Vegetable Magazine	4.00	4.00
Agriculture	1.00	1.00
Le Bon Ton	3.50	3.50
American Teacher	1.00	1.00
Our Little Ones	1.00	1.00
Nitery	1.50	1.50
Modern Priscilla	50	50
Woman's World	1.00	1.00
Peterson's Magazine	1.00	1.00
Arthur's Home Magazine	1.00	1.00
Overland Monthly	3.00	3.00
Practical Dietitian	50	50

IN BLOCKS OF THREE.

THE AMERICAN FARMER expresses its appreciation
of the work of its
friends this year by seek-
ing more and more to ad-
vance the interests of the
farmer. That it may go into
every farm household in
the United States, we make
the following offer for
BLOCKS OF THREE:
If you get two subscrib-
ers in addition to your own,
three in all, we will send
the three papers for
FIFTY CENTS.

THE GLEASON HORSE BOOK.

Don't fail to improve the fine oppor-
tunity we offer you to get the Gleason
Horse Book. This is admitted to be the
best horse book ever written, and more
than 100,000 copies have been sold at
\$3 apiece. We will send it to any ad-
dress for a club of three subscribers at
25 cents each.

The Republicans of California are to
use pampas plumes as their campaign
decorations this year.

CALIFORNIA will get \$290,308 of the
sugar bounty which the Supreme Court
has ordered to be paid.

SOME Californians tried to get up a
big canigre business on the lines of the
sugar beet works, but have failed dis-
astrously.

We are not so terribly afraid of
Japanese competition. Men fed on rice
never can seriously compete with those
who live on bread, meat and beans.

The outlook for cotton is good. Our
visible supply this Fall will be the lowest
it has been for some years, and the de-
mand promises to be unusually strong.

DUTIES ON AGRICULTURAL PRO-
DUCTS.

The deliverances of the Republican
Convention at St. Louis upon the burn-
ing question of protection to our agri-
cultural industries were comprehensive
and decided.

They were contained in two planks
of the platform, which read as follows:
We condemn the present Administration
for not keeping faith with the sugar-
producers of this country. The Republican
party favors such protection as will lead
to the production on American soil of all
the sugar which the American people use,
and for which they pay other countries
more than \$100,000,000 annually.

To all of our products—to those of the
mine and field as well as those of the shop
and factory; to hemp, to wool, to the product
of the great industry of sheep-husbandry,
as well as to the finished wools of the mill—
we promise the most ample protection.

This seems to cover the whole ground,
and very completely. It promises, in
unmistakable terms, such legislation as
will give to our own farmers the \$100-
000,000 a year which we have been
spending abroad for sugar. This alone
will be a great gain for the country.

One hundred million dollars is an
immense sum to drain from the country
every year in gold. To retain it at
home is not only to make money more
plentiful with us, but to increase the
gains of agriculture in every way, by
giving those who are now raising other
products at little profit an opportunity
to turn their energies in more re-
munerative directions. If we can pro-
duce \$100,000,000 worth of sugar a
year—and nobody questions that we
can—it will make the country richer
by an hundredfold that amount.
Every dollar that we can keep and
spend at home counts for \$100 in the
development of general prosperity. The
men who get that \$100,000,000 will not
be competitors in raising wheat and
corn—they will be consumers. They
will spend the money for breadstuffs,
for meats, for clothing, and machinery,
and the additional producers of clothing,
machinery, etc., required to supply them
will consume that much more of our
meat, breadstuffs, and other products.

It is the same with the other agricul-
tural products—wool, hemp, and other
things—for which we spend another
\$200,000,000 a year in gold.

The removal of the protection on
wool was an infamy for which there was
no excuse. It was a deliberate sacrifice
of a great industry, and of the interests
of more than 1,000,000 of our best class
of citizens, to gratify the demagogues and
charlatanism of a pack of blatant incom-
petents. The thing was so criminally
inexcusable that it is hard to write of it
temperately.

Now, let the Democratic Convention,
soon to meet at Chicago, follow these
declarations with ones equally strong in
favor of justice to American farmers.

AMERICAN WOOL IN ENGLAND.

United States Consul Meeker reports
to the State Department that American
wool is not well liked in the important
cloth-making district of Bradford, Eng-
land, because the workmen are not used
to its handling, and also because it is
not considered as well suited to the
staple fabrics of the district. A lot of
100,000 pounds of Ohio wool brought
18 cents, although 23 cents was asked
for it, and several hundred thousand
pounds of far-western wools were sent
back to the United States because the
prices asked could not be realized, and
another large quantity of United States
wool is now lying in warehouse waiting
a market.

The explanation of this undoubtedly
is that the English workmen and
manufacturers are notoriously—often
stupidly—old fogies, and at once con-
demn anything that they are "not used
to." They have nothing like the in-
genuity and adaptability of the Ameri-
cans.

THE SUGAR BOUNTY.

In spite of all he can do to conceal
and belittle it, Secretary Carlisle will
have to confess a deficiency of at least
\$26,000,000 for the fiscal year ended
June 30. It has been said all along
that he would postpone the payment of
the sugar bounty until July, so as to not
have it figure in the deficiency. The
sugar growers can stand this, but what
they are most afraid of is that he will
postpone payment until after election,
so as to keep the apparent deficiency
down to the lowest point during the
political campaign.

KANSAS will have 43,000,000 bushels
of wheat this year, the biggest crop in
the history of the State, and double that
of last year. She will need 9,000,000
bushels of this for consumption within
the State, and have 34,000,000 bushels
for sale.

VICTORY FOR AMERICAN BUTTER.

In a communication recently received
from the British Board of Agriculture
by Acting Secretary of Agriculture
Dabney, a return is made of samples of
imported butter analyzed under the di-
rection of the Board from May, 1895,
to February, 1896, inclusive. The total
number of samples so analyzed was 995,
representing the products of 12 different
countries. The countries in whose prod-
ucts adulterated specimens were found
were as follows:

Belgium, five samples, one adulterated; Denmark, 182 samples, eight
adulterated; Germany, 154 samples, 43
adulterated; Holland, 250 samples, 66
adulterated; Norway and Sweden, 109
samples, two adulterated; Russia, 49
samples, five adulterated. The countries
contributing products among which no
adulterated specimens were found were
Argentina, four samples; Austria, 57;
Canada, 39; France, 62; New Zealand,
21; United States, 63.

In regard to the adulterated products,
the noteworthy points are the tremen-
dous proportion of specimens, over 34
per cent, from Germany; the large pro-
portion, numbering over 25 per cent,
contributed from Holland; and the fact
that Denmark, by far the largest con-
tributor of foreign butter products to the
British market, and enjoying hitherto
an almost irreproachable reputation in
the butter market, should have contrib-
uted, on a total of 182 specimens, eight
adulterated, or nearly five per cent.

THE WHEAT MARKET.

The wheat market is being buffeted
by all manner of conflicting rumors, and
the operators seem badly at sea for ac-
tual facts.

On the one hand the bulls contend
that the harvest in Russia has been very
poor, that of Austro-Hungary nearly as
bad, while in France wheat has been
such a failure that over 100,000,000
bushels will have to be imported. Also,
that in this country, in spite of the glow-
ing reports from Kansas and other sec-
tions, the crop is generally deficient, and
the amount in the farmers' hands is much
smaller than a year ago. It is stated by
leading Chicago dealers that the Spring
wheat crop will only be 172,000,000
bushels, of 59,000,000 bushels less than
last year, while the Winter wheat crop
will be 271,000,000, making but 473-
000,000 bushels in all, as against 612-
000,000 bushels in 1892. They claim
that the amount of the old crop yet in
the hands of the farmers is only 43-
000,000 bushels.

On the other hand, the bears point
to the cheerful reports of the harvest by
the United States Department of Agri-
culture; they claim to have figures that
the bad news from Russia and Austria
is exaggerated, and as to the quantity
of grain still in the hands of the farmers
they point to the unexpectedly large
receipts at Chicago. The small advance
in the price of wheat at the European
centers seems to support their assertion
that Europe does not expect to have
to buy largely of American grain.

There is an almost entire absence
of speculation, and to this many attribute
the low prices.

We do not know any more about it
than they do, and not so much as many
of them, but we feel very certain that
the price of wheat is going to steadily
rise, and that before the New Year
wheat in Chicago will be very near the
\$1 mark.

ANTHRAX OR CHARBON.

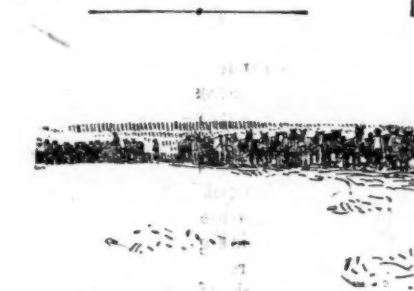
Dr. R. S. Hindekoper, of the Bureau
of Animal Industry, finds that anthrax
or charbon has been a plague ever since
the beginning of written history. It
existed in Asia Minor at the time of the
siege of Troy, and was a plague in Egypt
at the time of Moses. The old Greek
and Latin writers speak of it, and in
1589 the Senate of Venice prohibited the
sale of meat, butter, or cheese from af-
fected animals. In 1864 more than 1,000
persons and over 10,000 horses died in
one part of Russia alone from anthrax.
The disease reached this country in the
last century, and is worse in South
America than in North. The direct
cause of the disease is always contagion.

In an infected district horses may eat
the rich pasture of the Spring and early
Summer with impunity, but when grass
becomes low they crop it close to the
ground, pull up the roots, around which
the virus may be lodged, and under
these conditions the animals are more
apt to have abrasions of the lips or
tongue by contact with dried stubble
and dirt on the roots, which favors the
introduction of the germs into the sys-
tem. The virus may be introduced with

food, and enter the blood-vessel system
from the stomach and intestines. If
contained in the dust, dried hay, or on
the parched pasture of late Summer, the
virus may be inhaled and be absorbed
from the lining of the lungs. If con-
tained in harness leather, it needs but
an abrasion of the skin, as the harness
rubs it, to transfer the spore from the
leather to the circulation of the animal.

The prophylactic treatment formerly
consisted in the avoidance of certain
fields and marshes which were recognized
as contaminated during the months of
August and September, and had been
occupied the years in which the out-
breaks usually occurred. It underwent,
however, a revolution after the discovery
by Pasteur of the possibility of pro-
phylactic inoculation which granted
immunity from future attacks of the
disease equal to that granted by the
recovery of an animal from an ordinary
attack of the disease.

This treatment consists in an artificial
cultivation of the virus of anthrax in
broths, jellies, or other media, and in
the treatment of it by means of con-
tinued exposure to the atmosphere, or to
a high temperature for a certain length
of time, which weakens the virus to such
an extent that it is only capable of pro-
ducing an ephemeral fever in the animal
in which it is inoculated, and which yet
has retained a sufficient amount of its
power to protect the animal from inocu-
lation of a stronger virus, which is carried
on in some countries at the expense of
the Government, and is furnished at a
small cost to the farmers in regions
where the disease prevails. In this
country it is made only in private labora-
tories.



SCENE ON MR. COOPER'S NORTH DAKOTA FARM.

The Chicago elevator men are re-
ported to be strongly fighting to keep
the price of wheat down to 55 cents, or
under. The feeling in the market is
against them, and that 57 cents is near
the correct figure for wheat.

AFTER two years of terribly hard
sledding Nebraska is now smiling the
happy smile of assured prosperity.
Crops could not look better than they do
this year, and everybody feels that good
times are surely at hand.

It looks as if canigra culture is going
to be a big success in Florida.

Rape for Sheep.

As I have had three or four years'
experience in raising Dwarf Essex rape,
I can say it is a most excellent pasture
for sheep. It requires good soil and
draws heavy on it. I pasture Dorset
sheep on it and have never lost one from
its use. Last year I mixed two pounds
of rape to four of crimson clover and
sowed six pounds to the acre between
rows as near as possible with a bow
seeder and covered. By this method the
stand was most perfect, and I think
this made the nearest complete food I
ever saw. The sheep love it, and in the
Winter when they could not get at it
because of the crusty snow would go
out and lie down and hang around seem-
ingly to get even a smell of it.—M. M.
SMALL, Venango County, Pa.

Hay for France.

The Paris cables announce a total
failure of the French hay crop. French
exporters have been buyers of oats in
New York for some time past, in anti-
cipation of a reduced crop. There is
also more inquiry for hay for export
from the United States and Canadian
ports to France.

STRAW.

Maine's forest land is worth \$35,250-
000.

Chinese tea-pickers are not allowed to
eat fish.

The farmers of Central New York
are going extensively into bean-raising.

The total valuation of all the farm
products of every description in this
country was, by the last census, \$2,460-
107,454.

A new method of stopping hicoughs
is said to have been accidentally dis-
covered in a French hospital. It consists
in thrusting the tongue out of the mouth
and holding it thus for a short time.

HON. ROLLIN C. COOPER.

A Very Successful North Dakota
Farmer.

Hon. Rollin C. Cooper, of Cooper-
town, N. D., was born in Washtenaw
County, Mich., in 1845. His father and
mother were Vermonters, and farmers,
who went to Michigan in 1832. He
was the youngest boy of a large family.
When about 13 he went to Minnesota
to live with an elder brother, but in 1861
they all got the gold fever, and struck
out for Colorado. He immediately went
to work for himself, and after a few
years of mining, began stockraising and
farming. He was successful in this and
remained in Colorado altogether for 20
years. Then the new Territory of Dak-
ota attracted him, and he migrated
thither. Success followed him, and he
is now the proprietor of a magnificent
farm of 7,000 acres, well-stocked in



ROLLIN COOPER.

every respect. He is also the proprietor
of a fine grain elevator at Cooperstown,
and has other interests. He is much in
love with North Dakota, on account of
its productiveness, its healthful climate,
and the advantages it offers to the in-
dustrious, prudent and skillful. He
thinks that the Winters there are not
nearly so hard as in former years. He
is a strong Republican in politics, and



SCENE ON MR. COOPER'S NORTH DAKOTA FARM.

has been honored by his fellow-citizens
with several important offices. He has
been Commissioner of his County ever
since it was first organized, and has been
a member of the North Dakota Legisla-
ture.

HON. HARRY S. OLIVER.

A Live Young Farmer and Hustling
Citizen of North Dakota.

Hon. Harry S. Oliver, of Lisbon, N.
D., who among his many distinctions
has that of being the best parliamentar-
ian in the North Dakota Legislature,
was born in Chautauque County, N. Y.,
and was educated at Panama, N. Y. He
went to Dakota in 1880 and settled in
Ransom County, where he purchased
1,200 acres of land and commenced to
raise wheat. After four years' trial he
determined that wheat alone would
bankrupt any man if followed long
enough. He then began raising stock.
Purchasing some thoroughbred Holstein
cattle, an imported Norman stallion, and
a few grade mares, he commenced to
convert the straw that the farmers had
previously burned into grade Normans



H. S. OLIVER.

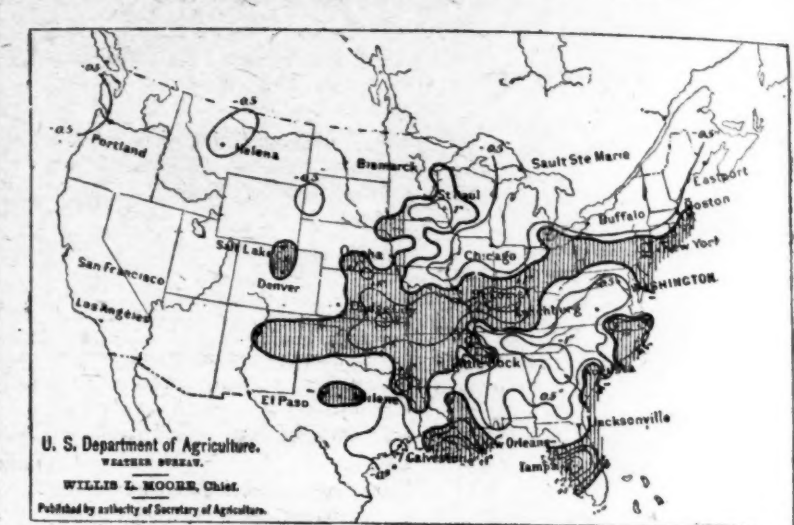
and Holsteins. He also keeps from 200
to 300 hogs all the time. These range
upon the stubblefields in the Spring and
Fall, and are fattened for the markets
upon corn, barley, broomcorn, millet,
and the screenings from the other grain raised
upon the farm. By this method the
crops are rotated so that he gets much
better results; and when the hot winds
and drouth comes he has a few cars of
stock to help out. He says:

"In these days of competition in all
classes of business and low prices it re-
quires as much business method and
skill to operate a farm as any other
business, and he that would succeed
must vacate his seat at the corner
grocery, quit howling and grumbling
about the hard times, go about his busi-
ness in a business-like manner, and he
will be surprised at the results."

As Mr. Oliver is a good speaker and
popular in his manners, the Republican
leaders prevailed on him to accept the
nomination for County Assessor in 1882,
and he was elected. In 1884 he was
elected to the Territorial Legislature;
a member of the Lisbon Council in
1886. He has been elected to the
Legislature several times since, and is at
present a member.

When first elected to the Legislature

Departures from Normal Precipitation for the
Week Ending June 29, 1896.



U. S. Department of Agriculture.
WILLIS L. MOORE, Chief.
Published by authority of Secretary of Agriculture.

WASHINGTON, D. C., June 30, 1896.

TEMPERATURE.

The week ending June 29 was cooler than usual over the eastern Rocky
Mountain Slope, on the immediate California coast, in the Middle Atlantic States,
and over portions of the upper Ohio Valley and Lake Region. The deficiency in
temperature was nowhere very marked, exceeding four degrees per day over only
limited areas in the Middle Atlantic States and southern Rocky Mountain Region.

On the north Pacific Coast, throughout the Plateau districts, over the north-
ern portion of the upper-Lake Region, and generally throughout the Southern
States the week averaged warmer than usual, the temperature excess ranging from
three to six degrees per day over the east Gulf States and portions of the upper
Lake Region, and from three to seven degrees per day in the Plateau districts.
In the west Gulf States the week averaged from one to four warmer than usual.
The temperature extremes of the week have not been unusual, with the exception
of the maximum temperature over northeastern Texas on the 28th and 29th,
which was as high as any previous record for the third decade of June.

PRECIPITATION.

Over Arkansas, Oklahoma, eastern Kansas, the greater part of Missouri,
and generally throughout the Ohio Valley, the rainfall during the week was
greater than usual, the amount generally ranging from one to three inches, and
over a few localities reaching four inches or more. Ample rains have also fallen
over portions of Iowa, Wisconsin, southern Minnesota, and portions of the Middle
and South Atlantic States. Florida, extreme southern Louisiana, and central
Texas received more than the usual amount.

In the upper Missouri Valley, and over portions of the Upper Mississippi
Valley, Lake Region, northern New England, and much of the east Gulf States
the rainfall of the week is below the average, the deficiency generally ranging
from one-half to one inch. While good rains have fallen over portions of north-
central Texas, the greater part of that State received very little rain.

The average rainfall in Texas from April 15 to date, as determined from the
records of 24 stations, is about 2.50 inches. For practically the same stations
and period in 1895 the rainfall was nearly 15 inches, against slightly over eight
inches for 1894. It will thus be seen that this State has suffered from a drouth
of unusual severity during the season of 1896, the report from the central station
of the Climate and Crop Service indicating that the early corn crop has been per-
manently injured, and that cotton is seriously damaged.

GENERAL REMARKS.

The week ending June 29 has been exceptional favorable, and most crops
have made rapid and healthy growth.

Winter-wheat harvest continues in the central and northern portion of the
Winter-wheat belt, but has been interrupted to some extent by cloudy and rainy
weather in some sections.

Corn has made exceptionally progress during the week, and the early part of
this crop is being laid by in excellent condition as far north as Nebraska, Iowa,
and Illinois. In Texas and portions of Arkansas, Louisiana, Mississippi, and
Georgia, corn has suffered from drouth, the early crop in Texas and Arkansas
being too far advanced to be saved by rain.

Cotton has improved over the eastern portions of the cotton region, but con-
tinues to suffer from drouth over the western portions. The complaints of injury
by lice are much less numerous than during the preceding weeks.

Reports generally indicate that tobacco is in excellent condition, especially
in Ohio, Indiana, and Kentucky. Curing has begun in North Carolina.

the country, and known around New York
as "the Cranberry King," died at his home
June 5, from the results of a runaway ac-
cident a few days previous. He was an active
politician, at one time a Republican, and
later a Democrat. He had held several im-
portant public positions.

Mr. T. G. Newman, manager of the Bee-
keepers' Union, and so long editor of the
American Bee Journal, is now a citizen of
San Diego, Cal.

The largest sheep owner in the world is
said to be Mr. S. McCaughey, of the County
Station, at Jerilderie, New South Wales. He
has 3,000,000 acres of land and last season
shorn 1,000,000 sheep.

Senator John Beard, of Alameda County,
Cal., 10 years ago planted an acre of locust
trees. Last season he sold all the trees there-
on measuring six inches in diameter to a
captain for ship timber, and made \$46 by
the transaction, besides cutting 30 cords of
wood for use.

George Bell, a farmer near Newburg, Mich.,
lost his only team by lightning and was him-
self so severely shocked as to be unable to
work. Without wasting any time in telling
him how much they sympathized with him
over his loss, the energetic neighbors turned
out 48 strong, and with 18 horses soon had
his little farm plowed, dragged and planted
in corn. Then a subscription paper was put
under way to purchase a horse for him to
cultivate the corn with.

The Chicago Produce warns farmers and
shippers against C. E. Horrie & Co., alleged
commission merchants, who are literally
circulating the country.

The butter, cheese and egg house of
Herman Schmidt, 151 Reade St., New York,
was closed by the sheriff last week, on
account of judgment secured by Bowers
National Bank for \$15,000. The building
is said to be worth \$70,000, divided into
lots of creditors who had sold him stock for
some time. He had transferred all his prop-
erty to his father-in-law, Mr. Kramiec, claim-
ing to owe him money on account.

It was True.

Late in the evening a report spread
through the train that we had as a fel-
low-passenger a man worth \$20,000,000,
who had got on at Buffalo. I made in-
quiry of the porter of my car, and he
replied:
"Dat's what dey say, sah, but yo'<

THE GARDEN.

STRAWBERRIES.

Comparative Test of Over 100 Varieties.

EDITOR AMERICAN FARMER: I give below as clearly and candidly as I know how the result not only of this year's test but of many years' experience as strawberry specialist.

EXTREMELY EARLY VARIETIES.

Meeks Early.—Very firm, perfect color, good size. Profitable on rich soil. Improved Westbrook.—Its productiveness, firmness, perfect color and good size make it a highly profitable market berry. But soil must be rich.

Murray.—A better market berry than Westbrook under average culture. Several days later.

Hoffman.—Not productive enough this far north to pay.

Eleanor.—Very promising, but not fully tested here.

EARLY VARIETIES.

Smeltzer.—Similar to Michel, but larger and more productive. Pays well here.

Michel.—Profitable as this is in the West and Southwest, it does not pay here.

Arkansas Traveler.—An exceedingly heavy bearer of large berries.

Clyde.—Productive of large berries which excel in firmness.

Rio, Dayton, Van Deman.—Fine berries all of them, but not productive enough to pay.

Newman.—This standard Southern berry does not pay this far north.

Reber Wood.—Moderately prolific, but rather soft.

MEDIUM EARLY VARIETIES.

Bolach.—Its huge size and unfailing productiveness make it our great market berry.

Greenview.—Similar to Bubach. Bismarck.—Promises to be an excellent pollenizer for Bubach, as it resembles it closely in plant and berry.

Crawford, Beecher, Mary, Enormous, Marshall.—These varieties are good only on very rich soil.

Gandy Belle, Tennessee Prolific, Wadsworth.—These varieties are of the highest value as pollenizers for Bubach, Greenville and other large pistillates.

Wm. Belt.—A superb grower, not fully tested as to fruit.

Brandywine.—In flavor, color, size, productiveness and shipping qualities about perfect.

Belle.—Rusts some, but bears good crop of huge, flat, misshapen berries.

Barton, Crescent, Haverland, Great Pacific, Phillips, Love, Princess, Saunders, Biel, Splendid, Muskingum, Holland, Edgar, Queen.—These all bear good crops and are safe average market varieties.

Cumberland, Parker Earle.—These varieties have a fatal weakness. They are so soft to carry to market.

Columbian, Cloud.—These varieties do not pay this far north.

Cyclone.—Prolific of firm berries, but not large enough.

Lanah.—This variety, which has created a great stir south, will not pay here.

Euland.—A powerful pollinizer. Berries large but rough.

Warfield.—This great standard of the West and Northwest ranks far below Crescent here.

Vanhook.—A firm, large, well-colored, productive market berry.

Brunette, Banquet.—Claim to be of perfect flavor, but I have never been able to find enough fruit to get the taste well in my mouth.

West Lawn.—This ranks with my largest and most valuable market berries.

Smith's Seedling.—A good average berry, but not at all extraordinary.

Shuster's Gem.—Too soft to ship. Shuster's Gem.—Exceedingly prolific of berries of the Crescent type. I know no heavier bearer.

Louise.—A good productive average-sized strawberry.

Lady Thompson.—Ripens among the first medium early varieties. Bears here a heavy crop of large, well-colored berries.

LATEST VARIETIES.

Gandy.—A superb berry, but not profitable except under very high culture.

Aroma.—Equal to Gandy in size and far more productive under average conditions.

Equinox.—The latest of all. Prolific, of fair size but of poor flavor.

Timbrell.—A well flavored table berry, but fails to color well.

The following varieties I have discarded—some of them as worthless, some of them as inferior to varieties of similar character:

Acme, May King, Ontario, Pearl, Regina, Stevens, Accomac, Beebe, Belmont, Bomba, Capt. Jack, Dew, Gillespie, Hatfield, Beverly, Lida, Manchester, Monmouth, Oregon, Everbearing, Bidwell, Pineapple, Southard, Sterling, Alabama, Bessie, Cameronian, California, Crystal City or Hyslop, Jesse, Clark's Early or Early Idaho, Jersey Queen, Mammoth, Old Ironclad, Price, Felton, Gypsy, Leviathan, Kentucky, Pansy, Gayman, Yale.—O. W. BLACKNALL, Kittrell, N. C.

Disease of Strawberry Leaves.

The disease by which the leaves of the strawberry become spotted and then turn black and fade is due to a fungus, a minute plant, which grows in the leaf, and is known as strawberry rust. It is prevented by spraying the leaves with the Bordeaux mixture, consisting of four ounces of sulphate of copper dissolved in water; six ounces of lime, also dissolved in water. The two mixtures are poured into a vessel and stirred, then strained, and sufficient water is added to make six quarts. This is spread in a spray on the plants early in the spring, before the blight appears, and again the moment it is seen on the leaves.

Thayer's Berry Bulletin for July, 1896.

When berry plants produce one crop, they never bear again. A new plant must be grown every year for next season's crop.

In the effort to bear fruit and mature perfect seed, plants become completely exhausted.

In this weak condition they at once offer an abiding place for germs of disease and a depository for eggs of future insect pests.

A dying plant also endangers health and vigor of new growth; hence all old canes and plants should be removed and burned immediately after fruiting.

In raspberries not only remove all old canes, but all weak and unthrifty new growth. Four or five vigorous canes in each hill are sufficient for best results.

More than a score of distinct and separate diseases are found among raspberries.

The most common are "Orange rust" on black caps and "Curl leaf" among reds.

Hills so affected should be dug out, root and branch, and burned at once.

The removal of weak and dying canes, judicious pruning, to admit free circulation of air, and thorough cultivation, are the great safeguards against insects and diseases.

"Bordeaux mixture," "keroseene emulsion" "white hellebore" and kindred remedies are sometimes necessary, and the successful grower should know when and how to use them. All are quickly prepared and easily applied.

It is a question whether strawberry beds should be allowed to bear more than one crop.

If season has been favorable, and a large crop produced, or if grass and weeds have been allowed to take possession, then do not hesitate to plow under and start new beds.

If, however, a small crop was produced from vigorous vines and the beds kept free from grass and weeds, as they should be, then the second year, or even a third, may be profitable, depending much on season, fertility of soil, cultivation, etc.

When old beds are to be continued, they should be mowed immediately after fruiting and burned over. Then reduce rows to six inches in width, hoe out all weeds and grass, apply fine manure, and cultivate often as new beds.

With this treatment, new runners will soon appear and a nice matted row may be secured, producing many berries the following season.

As a rule, new beds every year are most profitable and satisfactory.—M. A. THAYER, Sparta, Wis.

A Smart Gardener.

Every lover of art knows of the celebrated works of Meisner, the painter. Now Meisner is not only could paint, but he could tell a good story, and he was especially fond of relating the little anecdote of his gardener, whose horticultural erudition was remarkable.

A smattering of learning is a dangerous thing, and Meisner's gardener had a little knowledge of the Latin tongue, which he was fond of using to name his different plants. Meisner for a long time was skeptical of the correctness of his gardener's Latin, so one day he set a trap for him by giving him the root of a red herring and asking what seed it was. Without hesitating the gardener gave it a long Latin name, and promised that it would bloom in about three weeks. Meisner chuckled to himself, and agreed to inspect the blooms in three weeks or more. When the time came the painter questioned his learned horticulturist about it, and that party led him into the hot-house to an enormous flower-pot. There, sure enough, were the blooms in the nature of the heads of six red herrings just emerging from the dirt in the pot. Meisner breathed a deep sigh, and shook his gardener's hand, exclaiming, "What a wonderful man you are!"—Harper's Round Table.

The Use of Gypsum.

The best time of the year to apply gypsum to any crop is in the Spring, when the growth is starting. It is useless to apply any fertilizer when a crop has made the most of its growth; the proper time is when the growth is beginning. The common way of spreading gypsum is by hand, a slow and disagreeable way, certainly, but the only machine ever in the market seems to have gone out of use for want of patronage.

As only a hundred pounds per acre of this fertilizer are used, it is not much of a labor to sow it by hand. The best way of using it doubtless is to mix it with the manure by spreading it in the stables, to prevent the usual odor which arises, and to scatter it on the manure in the yard for the same purpose. Then it does some good by preventing the loss of the ammonia from the manure. And it gets into the soil where it will do the most good in the end. Gypsum is to be procured of the dealers in implements or seeds for the farm. The usual cost is 50 cents a bushel weighing 80 pounds.

The Cabbage Fly.

The small worms in the roots of the cabbages and turnips are the young of a small fly, which lays its eggs in the roots, near the ground, and the eggs soon hatch into small white worms, which eat into the roots and kill the plants. The fly is closely related to the onion fly. The remedy is to scatter air-slacked lime around the cabbage stems on the ground. This deters the flies from laying eggs on the plants, as lime is injurious to them.

Beecham's pills for constipation 10¢ and 25¢. Get the book at your druggist's and go by it.

Annual sales more than 4,000,000 boxes.

A NEW TOBACCO PEST.

A Warning to Tobacco Growers.

A small caterpillar has been discovered mining the leaves of growing tobacco. The caterpillar is about one-half inch long, greenish, with a dark brown head. It makes an irregular or blotch mine by eating the green matter or parenchyma of the leaf, leaving the skins intact and the leaf transparent. The caterpillar is extremely voracious and as several usually mine one leaf the leaf is soon rendered worthless. The insect belongs to the sub-family of Tineid moths, whose best known representatives are the clothes and fur moth and the Angoumois grain moth. This particular species is yet unnamed.

Remedies.—Being protected by the skins of the leaf, no ordinary poison or insecticide will destroy this pest, nor can it be hand-picked without destroying the leaf. The only treatment is to watch for leaves showing transparent blotches and when found to remove and burn them. So far this pest has been reported only from one locality in North Carolina, but it behooves tobacco growers everywhere to look out for it and destroy it as soon as it appears. If it becomes common it will greatly harm the tobacco industry of the State.—Gerald McCarthy, Entomologist, N. C. Experiment Station.

How Tobacco is Cured.

The curing of tobacco for use consists of drying it first, then putting it in a bulky mass so that a fermentation may take place, by which the peculiar properties of the leaf, due to the nicotine in it, may be developed and some essential oils also in the leaf may be fixed, that the fragrance due to them in the burning may be preserved. First, the leaves, either loose or still on the stalk, are slowly dried in the shade—the sun would totally destroy the value of them—or they are dried in a house by a mild fire heat by means of a stove and flues. When the drying is completed the leaves are left until a damp day, or steam is made in the house, that the leaves may not break up and be destroyed, and are packed in bulk after being made into small bundles, called hands, which consist of 12 leaves tied together by the stems. These are placed in a pile, the ends lapped over each other somewhat to get a level pile; the heap is made a foot wide and high, or more, as the quantity may be, but it must be so large and compact as to secure some heat by the fermentation in the mass. This is the critical point in the curing, for on this the flavor and quality depend. This process takes two weeks or so, but experience is the guide as to when the leaf becomes sufficiently fragrant. The tobacco is then spread out and dried, and is packed in cases and pressed down solidly to keep out the air, thus improving by age.

Tobacco Quids.

J. D. McCall, of Florence County, S. C., gathered 6,944 pounds of tobacco from four acres, which he sold for \$560.16. It cost him \$120 to make it.

Mrs. B. L. Palling, of Escambia, Escambia County, Fla., housed from three-quarters of an acre 537 pounds of cigar tobacco, which netted her over \$1,200.

In Vance County, N. C., seven farmers averaged 792 pounds of tobacco per acre, which netted them each \$383.12 per acre.

The Field.

C. E. Kelsey, Marshall County, Miss.: Peavine hay has no superior, if an equal, for all kinds of animals, from hogs up, young mules, horses and cattle, sheep and goats, and I will say hogs will keep fat on it through the most severe Winter without any other feed, and old horses and mules will do well on it if not regularly worked.

Alfalfa is the great natural subsoiler. Its roots open up pores in the earth and conduct the waters downward.

Feeding Alfalfa.

Feeding alfalfa alone is wasteful, as the hay contains too large a proportion of protein, the most valuable constituent of food, and by feeding nothing but alfalfa much of this is wasted. To secure the best results it should be fed with some coarse fodder, such as corn stover or any grass hay, and some grain containing fat.—Prof. E. O. Wootton, New Mexico Experiment Station.

Farmers' Pests Dying.

Grasshoppers that have for two seasons played sad havoc with the crops of Wayne County, Pa., and which have this season swarmed throughout the County in vast numbers, greatly discouraging the farmers, are suddenly dying, and they are to be found lifeless everywhere.

Examination has disclosed under their wings a very small louse which kills them. In some of the fields the grasshoppers are found to have been killed by this insect.

Scientific Agriculture.

Some say book farming or science in agriculture will lead a man to ruin; but I say, does any farmer have too much knowledge for his calling? We should use every effort to get all we can pertaining to methods of agriculture. Every farmer should make some experiments and know for himself which will pay him and what he is doing at a loss, particularly in regard to fertilizers.—President D. D. Denise, New Jersey Board of Agriculture.

Knowledge Pays.

I only wish we could get our farmer boys to fully realize that knowledge pays on the farm as it pays elsewhere in life, and that those who are best equipped make the greatest success, other things being equal. There is still plenty of room at the top in agriculture.—W. A. Henry, Wisconsin Agricultural Experiment Station.

HEAVY DAMAGE TO PEANUT CROP.

Hail and Wind Storms in Tidewater Virginia Wrought Much Destruction.

The hail and wind-storms which have swept over North Carolina and Tidewater Virginia last month were far more destructive than was at first reported. The peanut crop in the Norfolk region was damaged fully 50 per cent, while the potato crop is almost annihilated. The destruction of crops in the western end of Orange County, N. C., was so great that many farmers have given up their land and are going elsewhere to seek employment. Others have begun to plow up their fields to plant late crops of corn.

Fields were torn to pieces, and not even cotton stalks were left in most instances. The ground was completely covered with ice. Men who were caught out in the storm were beaten fearfully, and some are reported injured. Chickens and fowls and birds were killed. It is estimated that the damage was from \$50,000 to \$60,000. The people are reported to be in destitute circumstances in Orange County.

In Tanner's Creek District, Norfolk County, the storm assumed the force of a tornado, and several dwellings were demolished, a barn being lifted bodily and hurled through the air. Heavy fragments of the structure were carried a quarter of a mile.

Catch Crops to Substitute Short Hay.

The most trustworthy crop to make up for the short hay yield is sweet corn of some of the early varieties, as Naragansett, which is the largest of the sweet kinds, and yields a heavy amount of forage. It may be planted up to the middle of July in southern New York and mature a good crop. The Mexican is equally good, having the most sugar in it of all the sweet corns. It should be planted in rows 30 inches apart, with the seeds eight inches apart in the rows, or three together at intervals of 24 inches, which is, on the whole, the better way.

Saufoin was tried some years ago by a farmer on Long Island, who failed to get any good result from it. It thrives on light sandy land, and comes into use only the third year after sowing. It has never made any success here, although the French farmers grow it to a considerable extent on the very light lands on which clover will not thrive. It is not a hay plant, but is cut green and fed in that condition. Golden German millet is an excellent, quick-growing crop, and succeeds everywhere. It may be sown now, using one peck of seed to the acre, and out in September will yield two tons or more per acre, on good land, of very excellent hay. Saufoin is sown in much the same way as clover; 12 pounds of seed to an acre.

Alsike Clover and Timothy.

There is no better preparation for a vigorous timothy stand than to sow Alsike clover seed with it. The Alsike is better than the common red clover, because it does not grow so rankly as to smother the grass sown with it. When the Alsike grows up the second year and seeds with its first and only crop, the entire plant dies, and its roots scattered through the soil begin at once to rot, furnishing an abundance of plant food for the grass roots. Up to the time the Alsike clover is out, the timothy will not make much growth, but so soon as the Alsike is out of the way, the timothy shoots up and its roots spread so that a complete sown is very quickly formed. A good growth of Alsike clover and a second crop of timothy, the latter a ton and a half per acre, have been grown in the Northern States the same year. With the common red clover there is a second growth, which keeps the timothy back so that it does not fill the ground until the third year. Though red clover is a biennial, it lasts longer than the Alsike, for one reason, probably, because it is a more uncertain seeder. If red clover fails to seed through too frequent cutting, its life may be continued until the third year, and possibly longer. This is true also of most other biennials.

Poor Quality of Overripe Hay.

Prof. Thos. Shaw: When clover is cut at the right time it is in itself almost a perfect food. If properly cured when thus cut it will be eaten up clean, and none wasted, but if not cut until overripe the stems will become so woody that live stock will not eat them unless impelled by hunger. And the shedding of the leaves will also be much greater while the clover is being cured. Timothy when overripe loses in the same way, but not so quickly as clover. And it should be borne in mind that in some dry seasons when warm winds blow there may be loss in succulency to so great an extent that the grass will be spoiled for first-class hay even before it has reached full maturity. It begins to cure while it is growing, and the moment such indications manifest themselves there should be no further delay in cutting. Native grasses make excellent hay when cut at the right stage, but the quality is very much impaired if they are not cut until after grain harvest. Of course where a large crop is to be harvested it may not be possible to cut all the crop when at its best, but it would be far better in such instances to cut some of the crop rather underripe than to allow some of it to get overripe because of inability to cut it. And if the weather should prove very showery it would be better to allow the hay to get overripe than to cut it then, for it is simply impossible to cure hay at such a time.

The Sugar Beet.

The prospects are that about 7,000 acres will be planted to beets at Chico, Cal., 1,200 at Anaheim, and some scattering acreage near Santa Ana, Norwalk, Rincon, etc. The entire crop, however, will be disposed of to the sugar factory at Chico.

Her Happy Day

A Charming Story of Medicine and Marriage.

Two Open Letters from a Chicago Girl.

AMONG the tens of thousands of women who apply to Mrs. Pinkham for advice and are cured, are many who wish the facts in their cases made public, but do not give permission to publish their names, for reasons as obvious as in the following, and no name is ever published without the writer's authority; this is a bond of faith which Mrs. Pinkham has never broken.

Chicago, Jan. 5th, '95.

My dear Mrs. Pinkham:—

A friend of mine, Mrs. —, wants me to write you, because she says: "you did her so much good." I am desperate. Am nineteen years of age, tall, and weighed 138 pounds a year ago. I am now a mere skeleton. From your little book I think my trouble is profuse menstruation. My symptoms are . . . etc.

Our doctor (my uncle) tells father that I am in consumption, and wants to take me to Florida. Please help me! Tell me what to do, and tell me quickly. I am engaged to be married in September. Shall I live to see the day? . . .

LUCY E. W.

Chicago, June 16th, '95.

My dear Mrs. Pinkham:—

This is a happy day. I am well and gaining weight daily, but shall continue the treatment and Vegetable Compound during the summer, as you suggest. Uncle knows nothing about what you have done for me, because it would make things very unpleasant in the family. I would like to give you a testimonial to publish, but father would not allow it. . . . I shall be married in September, and as we go to Boston, will call upon you. How can I prove my gratitude? . . .

LUCY E. W.

Just such cases as the above leak out in women's circles, and that is why the confidence of the women of America is bestowed upon Mrs. Pinkham.

Why are not physicians more candid with women when suffering from such ailments? Women want the truth, and if they cannot get it from their doctor, will seek it elsewhere.

Lydia E. Pinkham Med. Co., Lynn, Mass.

Australian Salt Bush.

In view of the great interest now being taken in the Australian salt bush (*Atriplex semibaccata*), the new forage plant for alkali soils, Director Devo, of the Experiment Station at Tucson, Arizona, sends the following brief method of growing it: The seeds are flat, somewhat heart-shaped, about one-tenth of an inch long, and of a brownish or reddish green color. If covered in wet soil when fresh they are apt to rot, but sown before a rain and lightly covered with soil, or preferably covered with grass or weeds and kept moderately moist they will germinate readily. They may be started in boxes or hotbeds and transplanted to the field; but plants grown in this way do not resist drought so well as those planted where they are to remain. While young the plants require watering two or three times, but when well established they will resist quite severe droughts. Although a perennial plant it grows so rapidly that one cutting may be obtained the first season, and two the following season. It will grow in soil having more alkali than any other plant valuable for forage, and unlike most plants growing upon such soil it has a prostrate habit, growing to a height of but 6 to 12 inches and spreading over several square feet of ground. Single plants have been known to reach a spread of 16 feet, this, too, upon very alkaline soil. It is estimated that from three to six tons per acre of dried hay may be produced. Sheep and hogs relish it green and when mixed with about one-third its weight of other hay horses and cattle eat it dried.

Chinch Bugs.

The past abnormally dry Spring has greatly favored the multiplication of chinch bugs in the wheat-growing Counties of North Carolina. The numerous misleading newspaper reports of certain experiments in the Western States, in which it was attempted to destroy these pests by means of artificially propagated infectious disease have given to many the impression that this is a sure and easy method of fighting chinch bugs.

The infectious disease method is not a success. It is substantially of no practical value. The disease artificially introduced will not spread except in very wet weather, and under such conditions similar diseases arise spontaneously and soon sweep away the bugs.

The only trustworthy method of fighting chinch bugs is by ditching them in or out of a field. With a two-horse plow make a deep furrow around the field to be protected, with the landside towards this field. In the furrow at intervals of three or four feet dig deep holes. The bugs in attempting to pass will fall into the ditch and fill the holes. Then they may be crushed by dragging a heavy log in the furrow, or another furrow, still on the side towards the protected field, may be plowed upon the bugs and rolled or stamped hard. Repeat as often as necessary. If such a furrow cannot be made a board six to 12 inches wide set upon edge around the field will not act as an effective barrier if the upper edge is kept covered with liquid tar. Chinch bugs always attack wheat first, and when this is eaten start for the nearest cornfield or timothy meadow.

Populists.—Butler, Jones of Nevada, Peffer, and Stewart.—Total, 37.

Nays.—Democrats.—Bate, Berry, Chilton, George, Gorman, Harris, Jones of Arkansas, Lindsey, Mills, Morgan, Pasco, Vest, and White.—13.

We gave a full summary of the provisions of the bill in the June issue of THE AMERICAN FARMER.

The bill defines "filled cheese" to embrace "all substances made of milk or skimmed milk, with the admixture of butter, animal oils or fats, vegetable or any other oils or compounds foreign to such milk and made in imitation or semblance of cheese."

Manufacturers of filled cheese are taxed \$400 annually, while dealers, \$250; retail dealers, \$15. In addition to these taxes the product itself is taxed one cent per pound, and imported filled cheese is taxed eight cents per pound, in addition to the import duty. It is provided that filled cheese shall be packed by the manufacturers in wooden packages only and branded with the words "Filled cheese" in black-faced letters not less than two inches in length. It also provides that all retail and wholesale dealers in filled cheese shall display in a conspicuous place in their salesroom, a sign bearing the words "Filled cheese sold here" in black-faced letters not less than six inches in length upon a white ground.

Southdown Breeders.

The following are the officers elected at the recent meeting of the American Southdown Breeders' Association:

Pres., L. S. Rupert, Bloomington, Ill.; Sec., Jno. G. Springer, Springfield, Ill.; Treas., D. W. Smith, Springfield, Ill.; Directors, Geo. McKerron, Sussex, Wis.; L. M. Crothers, Crothers, Pa.; F. W. Barrett, Wadsworth, N. Y.

A WATCH GIVEN AWAY TO EVERYBODY.

A Premium Offer that Breaks the Record.

READ CAREFULLY OUR OFFER BELOW.

Every Word of the Statement is Absolutely True, Though Hard to Believe.

Think of It! A Stem-Wind and Stem-Set Watch Guaranteed a Perfect Time-keeper that Will Not Cost a Cent.

We have secured for our friends one of the most serviceable watches ever made, which is a stem-wind and stem-set having all the modern appliances known to the watchmaker's art. The case is solid gilt or silver-plated, according to choice. It is two inches in diameter and three-quarters of an inch thick. The cut shows the correct shape. Remember this is the only watch which any person may be proud to carry in his vest pocket. It is guaranteed to go for the coming year (late year) without a single day's error, and is valued at \$1.00. A watch like this a generation ago would have cost \$20, even if it could have been produced, but the fact is it contains appliances unknown at that time.

In addition to the watch we send in every instance a neat and serviceable chain, so that the outfit will be ready to put on and wear as soon as received.

HOW TO GET IT.

We do not sell this watch without the paper, and so no one can secure one of these splendid timepieces by itself.

We will send this watch by mail to any person who will send us a CLUB OF ONLY TEN YEARLY SUBSCRIBERS to THE AMERICAN FARMER.

Understand that you pay nothing for the watch, but send us ten names and addresses of subscribers to THE AMERICAN FARMER with 25 cents for each subscriber, who will receive the paper for one year, postpaid, and we will send you the above-described watch and chain, postpaid, to your address absolutely free of charge.

No one, therefore, need be without a watch equal for keeping time to any only ten subscribers at 25 cents each for the best family newspaper in the United States.

If you are unwilling to spare even the little time required to get up the club, we will send the watch and chain with THE AMERICAN FARMER for one year to any address for \$1.75.

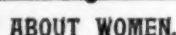
REMEMBER

We do not care to dispose of the watch with single subscribers, but our object in this unparalleled offer is to give the watch free to our friends who will raise the chain of time, because we want THE AMERICAN FARMER to go for the coming year into every farmer's house in the country. To accomplish this we are willing to make the sacrifice which this offer entails.

DO NOT LOSE TIME.

Not satisfied to this matter the very next day after you receive this offer.

THE AMERICAN FARMER, Washington, D. C.



FADS AND FANCIES.

WOMAN'S WISDOM.

HOME TABLE

A Norwegian Farmhouse.

Scotch Farm Laborers.

Japanese versus American Homes.

The household belongings of the average Japanese family may be carried from place to place as hand luggage, and the average residence of a Japanese family would not require the labor of three men for more than 10 days in construction. The average home of the common people in this country, including its carpets, pictures, books, music instruments, and furniture, would build and furnish 50 homes in Japan. The United States Commissioner's Bulletin already quoted, declares that of the forty millions of people in Japan, nearly 10,000 use footwear of modern manufacture. They use straw-matting and very simple wooden sandals of home make.—June *Overland*.

Oaks and Lighting.

Dr. Carl Muller, writing in *Himmlische und Erde*, declares that in Germany from 1879 to 1890, 56 oaks, 20 firs and three or four pines were struck by lightning, but no beeches. Yet 70 per cent of the forest trees of Germany are beeches, 11 per cent oaks, 13 per cent pines and six per cent firs. In other words, there are nearly seven times as many beeches as oaks. The beech seems to the Doctor, "immune" from lightning effects. Also, he says, trees standing on wet ground are more liable to be struck than those in dry, that trees with dead limbs are more liable than without, and that trees which are rich in fatty matter and resin are more liable than those which are not.

The Two-Bell Signal for Starting.

An explanation of the practice of ringing two bells to start a street race was made by an old street-car man, a man who is not trustworthy, it is ingenious. He declared that when horse cars were first used one bell was used to start the race and one bell to stop it. The horses soon broke down. They foundered at the knees, or their shoulders gave way. Every device that could be thought of was tried to ease up the strain of starting. Spiral springs were put on all the traces, but no good resulted. Finally a countryman who had been employed a week as a driver suggested that the bells be used to start the car, and he averred that when the horses got used to it they would set themselves at the first ring and be ready to pull at the second. The plan was tried, and was so successful that it has been in use ever since.

Uniform Cotton Bale

* For the last year, or even long before there has been an effort on foot in Texas and in other cotton-bearing States to secure a uniform bale of cotton. The advantages in having all the cotton in the South pressed into uniform-size bales are many, and railroad people have long sought to bring some kind of influence to bear which would secure the desired result. But on account of the large percentage of the press work being put to more or less expense in changing their presses, no great headway has been made up to the beginning of last season. But since last season there has been a great deal of missive work done in this direction, and the outlook now is very favorable for the next season's bales proving of a more uniform size.—*New Orleans Picayune.*

The Gay and Festive Jack

The last rabbit drive which occurred near Fresno during March resulted in the destruction of between 20,000 and 30,000 rabbits. A line of people 100 miles long drove the pests into a corner where they were killed. With the plowing and cultivation of the soil made possible by irrigation, the food supply for jack rabbits has been greatly increased and undoubtedly enhanced their breeding propensities until they have become a menace to the farming industry of California, Colorado, Oregon, Idaho and Utah.—*Rural Californian.*

Wages in Japan.

Wages and salaries are low in Japan living is correspondingly cheap. Recent statistics about the sums expended by merchants, manufacturers, and farmers show this. The statistics divide them into three categories, according to their wealth. A merchant, manufacturer or gentleman farmer of the first class spends on an average \$40 a year; in second class, \$25; in third class, \$16. A working costs, in the first class, on an average, \$120; in the second, \$60; in third, \$15. Burials cost \$80, \$40, and \$7, respectively.

The Doctor's Advice.

There is a physician in Cleveland is pretty sure to stutter when under stress of excitement. Some time ago he had occasion to professionally officiate at an interesting occasion, and his vocal firmity was the cause of a funny apprehension.

The husband and prospective father-in-law, by the way, had set his heart on a son and heir, was nervously pacing the library when his doctor entered.

"Well, Doctor," cries the husband, forcing a smile, "is it twins?"

"Tr-tr-tr!" began the doctor.

"Triplets! Great Cesar!"

"Qu-qu-qu" stammered the doctor.

"Quadruplets! Holy smoke!"

"No, no," cries the doctor. "Quite the contrary. Tr-tr-tr-try and think it philosophically. It's just a guess."

—Cleveland Plaindealer.

The State Labor Commissioner of Maine has decided the average cost of living per day for each individual in an average family is 21 cents. This includes rents, fuel, food and light.

FREE TO SHEPHERD

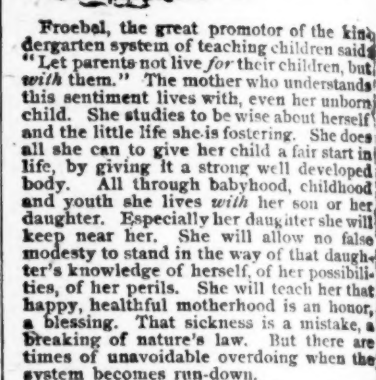
Pineapple Culture in Florida

A writer in the Florida *Agriculturist* gives detailed estimated results of a five-acre field of pineapples from the inception of the enterprise to the close of the fifth year, which may be summarized as follows: First year, expenses, \$135; second year, expenses, \$125.00, income, \$115.50; third year, expenses, \$91.95; income, \$132; fourth year, expenses, \$574, income, \$805.20; fifth year, expenses, \$1,083.49; income, \$5,649. Net income for five years, \$4,804.76, not including the value of 92,200 suckers on hand. The variety upon which the calculations are made is the Smooth Cayenne.—*Jacksonville (Fla.) Citizen.*

What the Matter was

Jinks (at a party)—I don't see what the matter with that pretty woman over there. She was awful dirty a little while ago, and now she won't have anything to do with me.

Stranger—I have just come in. She's my wife.—*New York Weekly.*



For over thirty years Dr. Pierce has used his "Favorite Prescription" as a strength-

ner, a purifier, a regulator. It works directly upon the delicate, distinctly feminine organs. It is beneficial in all the various troubles of the weak spots and in all their upsurges. It is needed in any state of the system. A woman who would understand herself will find an able assistant by sending for a bottle to W. B. Pierce, Medical Association, Buffalo, N. Y., for Dr. Pierce's Common Sense Medical Advice. It is a book that has reached its sixth thousandth edition. It is the most complete, common sense store of information in plain words that any person will readily understand.

When you have finished reading this slip please

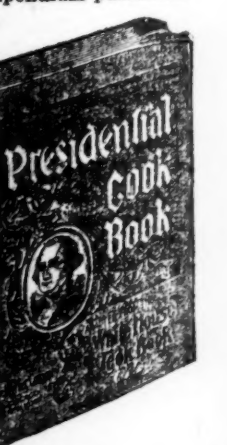
WOMAN'S WORK

Is a large illustrated magazine which carries with it the charm of home life in its happiest phases. It is a magazine of the home, and it is for the home. Always abounding in good reading matter, it is a magazine which is first of all a magazine for every department of literary and domestic interest. There is general surprise that its subscription price is so low. It is a magazine which is first of all a magazine for every department of literary and domestic interest. There is general surprise that its subscription price is so low. It is a magazine which is first of all a magazine for every department of literary and domestic interest. There is general surprise that its subscription price is so low.

MONEY MAKING AT HOME. If you are looking for a way to make money at home, you should send to **Woman's Work**, or will offer you an easy way to make money at home. You can make money at home by selling **Woman's Work**—either giving them out by hand or enclosing them in your letters. You can make money at home by selling **Woman's Work**—either giving them out by hand or enclosing them in your letters. You can make money at home by selling **Woman's Work**—either giving them out by hand or enclosing them in your letters.

The Presidential Cook Book

Adapted from the famous
WHITE HOUSE COOK BOOK
The Best Household
Compendium published.



448 pages; 8½x6 inches; weight 14 lb. over 1,400 tested recipes; by HIRCO ZIMMAN, ex-Steward of the White House, and a well known expert, MRS. F. L. GILLET, illustrated, including fine engravings of M. Cleveland and Mrs. Harrison.

The White House Cook Book has reputation that is national. It is based on its real worth. Every recipe it contains is actually tested, by the authors and found to be invariably successful, and every Cook Book it contains is reprinted in full. **The Presidential Cook Book**; thorough up-to-date; large type; large pages; plainly indexed. A handy volume—short, a **Perfect Cook Book**.

OUR OFFER.

The above book will be sent, postage paid, upon the following terms: Free for club of 3 yearly subscriptions at 25 cents each; or paper one year and the book, cents. Book alone, 40 cents.

The American Farmer, Washington
D. C.

FAITHFUL TO THE LAST:

TRANSLATED
By Alys Hallard

idiotic peasants, who can never keep their tongues still, must needs lead the Turks know that they were being deceived. They were naturally furious, and in their anger they tortured the poor fellow and put him to death.

"Poor fellow!" she murmured, with tears in her eyes.

The wound which he had treated as of no consequence, proved to be very serious, and during the next few days he was feverish and even delirious. When he was unconscious he talked all the time of the Princess. Fruit was not enough to sustain them, and at last, in desperation, she started out in search of game.

At last the feverishness left Stefanita and he fell into a peaceful sleep. It was late in the afternoon, when he was roused by a piercing scream.

He sprang up and looked for his weapons, but found nothing except his lance. He rushed out of the cavern, and there he saw the Princess defending herself with his sword against two Turks. Stefanita forgot his weakness, and with one bound was at her side and ran his lance through the aggressor's body. The second Turk tried to make off, but he was caught and strangled with his own scarf.

"Are there any more on the way here?" asked Stefanita.

The dying man only rolled his head from side to side. He either did not understand or he would not answer.

Stefanita tried to drag the two corpses away, but he had forgotten how weak he was, and he was obliged to sit down on the ground while Helena fetched him some water with which to moisten his parched lips.

He pointed to the dead bodies.

"Either they or us. We cannot stop here like this."

Helena collected the provisions together and took up the bear's skin, with which Stefanita had covered her mossy couch. When night came as she threw it over the wounded man on the floor, weak and almost helpless, under a tree, and then, taking up his sword, she mounted guard.

Stefanita had received a fresh wound in his combat with the Turks, but he had not breathed a word of it to her, and she was horrified to see the blood flowing from it when he was asleep. She had nothing with which she could bind it up, so was obliged to staunch it with some large leaves.

With bare feet and her long hair hanging down over her cloak, she watched, sword in hand, by this man who had risked his life for her.

"O, what will become of her if I should die?" murmured the sick man; and then, turning his head restlessly from side to side, he added, "If only I could have one look of her hair to carry with me to my grave!"

Cutting a tress of her beautiful hair from her head with the sword, she put it into his hands. His fingers closed tightly over it, and he went to sleep again, while she continued her lonely watch.

Suddenly it seemed to her that she heard some horses coming along the very road that she and Stefanita had taken. She gazed at the cold, glittering sword in her hand, and her youth revolted against the horrible death which she had resolved to inflict on herself rather than demand this supreme service from her faithful attendant.

"Stefanita, they are here—upon us!" cried the young Princess, in a tone of anguish. She had pointed the sword against her breast, but her hand trembled violently.

"Give me the sword!" he exclaimed, a look of agony in his eyes. He took it from her hands and stood right in front of her, pale and stern, like the angel of death.

"I shall keep my word faithfully," he said, "and the same sword shall release me afterwards."

The horses came nearer. Stefanita lifted his arm, and Helena closed her eyes, awaiting the supreme moment. Suddenly Stefanita's arm fell and his face lighted up.

"They are Roumanians!" he exclaimed, and then, raising his voice, he called out: "This way, this way; here is the Princess!"

When she came to herself again, her first question was about her children.

"They are safe, and waiting for you, my poor darling," replied her husband, kissing her as he lifted her in his arms on to his own horse.

"And were you trying to walk like this?" he asked, as he caught sight of her poor, bare feet.

"I was on my way to you," said Helena, endeavoring to smile.

Stefanita was then lifted on to a horse, and a soldier walked at his side, for he was too weak to sit up unsupported.

Several weeks later a raft, sheltered from the sun by a bower of leaves and flowers, and with flags flying, came down the Bistritza. The Princess Helena was seated in state under the leafy awning, and with her were her three little children.

Many were the fierce battles that were waged before the country was free from the Turks, and in each one Stefanita was always in the thickest of the fight. It was as though he bore a charmed life, though, for, indifferent as he ever was to danger, he always came out unscathed, and, reckless as he was of his life, it was preserved for many long years.

He lived to be a very old man, and at his death it was found that he wore next his heart a long, silky tress of fair hair.—*Strand Magazine.*

The Value of Spraying.

The spraying of trees has brought great results in fruit and more abundant crops, and besides increasing the fruitage it gives healthier trees and shrubs. The Star Mfg. Co., of Canton, Ohio, are the pioneers in improved methods and machinery for this purpose, and their new Patent Sprinkler and Force Pump that a child can operate will be welcomed by thousands who know the value of their goods. Their advertisement will be found in the columns of this paper.

ENIGMA.

[For the leisure hour of readers, old and young. All are invited to contribute original puzzles and send solutions to these published. Answers and names of solvers to this issue will appear in two months. An asterisk (*) after a definition signifies that the word is obsolete. Address letters for this department: "Puzzle Editor," AMERICAN FARMER, 1729 New York Ave., Washington, D. C.]

ENUCLEATIONS—NO. 25.

27.—Volskled. 22.—Foliated.
28.—Volskled. 23.—Foliated.
29.—Volskled. 24.—Foliated.
30.—Volskled. 25.—Foliated.
31.—Volskled. 26.—Foliated.
32.—Volskled. 27.—Foliated.
33.—Volskled. 28.—Foliated.
34.—Volskled. 29.—Foliated.
35.—Volskled. 30.—Foliated.
36.—Volskled. 31.—Foliated.
37.—Volskled. 32.—Foliated.
38.—Volskled. 33.—Foliated.
39.—Volskled. 34.—Foliated.
40.—Volskled. 35.—Foliated.
41.—Volskled. 36.—Foliated.
42.—Volskled. 37.—Foliated.
43.—Volskled. 38.—Foliated.
44.—Volskled. 39.—Foliated.
45.—Volskled. 40.—Foliated.
46.—Volskled. 41.—Foliated.
47.—Volskled. 42.—Foliated.
48.—Volskled. 43.—Foliated.
49.—Volskled. 44.—Foliated.
50.—Volskled. 45.—Foliated.
51.—Volskled. 46.—Foliated.
52.—Volskled. 47.—Foliated.
53.—Volskled. 48.—Foliated.
54.—Volskled. 49.—Foliated.
55.—Volskled. 50.—Foliated.
56.—Volskled. 51.—Foliated.
57.—Volskled. 52.—Foliated.
58.—Volskled. 53.—Foliated.
59.—Volskled. 54.—Foliated.
60.—Volskled. 55.—Foliated.
61.—Volskled. 56.—Foliated.
62.—Volskled. 57.—Foliated.
63.—Volskled. 58.—Foliated.
64.—Volskled. 59.—Foliated.
65.—Volskled. 60.—Foliated.
66.—Volskled. 61.—Foliated.
67.—Volskled. 62.—Foliated.
68.—Volskled. 63.—Foliated.
69.—Volskled. 64.—Foliated.
70.—Volskled. 65.—Foliated.
71.—Volskled. 66.—Foliated.
72.—Volskled. 67.—Foliated.
73.—Volskled. 68.—Foliated.
74.—Volskled. 69.—Foliated.
75.—Volskled. 70.—Foliated.
76.—Volskled. 71.—Foliated.
77.—Volskled. 72.—Foliated.
78.—Volskled. 73.—Foliated.
79.—Volskled. 74.—Foliated.
80.—Volskled. 75.—Foliated.
81.—Volskled. 76.—Foliated.
82.—Volskled. 77.—Foliated.
83.—Volskled. 78.—Foliated.
84.—Volskled. 79.—Foliated.
85.—Volskled. 80.—Foliated.
86.—Volskled. 81.—Foliated.
87.—Volskled. 82.—Foliated.
88.—Volskled. 83.—Foliated.
89.—Volskled. 84.—Foliated.
90.—Volskled. 85.—Foliated.
91.—Volskled. 86.—Foliated.
92.—Volskled. 87.—Foliated.
93.—Volskled. 88.—Foliated.
94.—Volskled. 89.—Foliated.
95.—Volskled. 90.—Foliated.
96.—Volskled. 91.—Foliated.
97.—Volskled. 92.—Foliated.
98.—Volskled. 93.—Foliated.
99.—Volskled. 94.—Foliated.
100.—Volskled. 95.—Foliated.

236.—Summertime.
Authors of word-forms: Eugene, Dan D. Lyon, Kenneth, Stables.

ANSWERS TO CONUNDRUMS.

1. Because it is first in anger; 2. It is the beginning of a corn; 3. It is in the middle of ocean; 4. It is always in fun; 5. It is the last of a dog; 6. It is always in the English; 7. They always have one I; 8. It makes an ill kill; 9. It is always in luck; 10. It begins and ends mud; 11. Taken from none it leaves one; 12. It has a pen; 13. There's never but one in a pod; 14. It is always followed by U (you); 15. It is always in the right; 16. It is always crooked; 17. It is always in time; 18. It comes over T (tea); 19. It is foremost in vice as well as virtue; 20. It takes two V's to make it; 21. It is always cross; 22. It begins young; 23. It is in the middle of a dozen.

The prize for best lot of answers is awarded to A. N. DREW, Elmira, N. Y.

ENIGMAS.

(May.)
Complete Lists: C. Saw, G. Race, Altman, Ben Trivato, Malenco, Poly, Gi Gaudin, Guido, Frantz, Oliffe Imished.
Incompletes: Arty Fisher, Cinders, Holly, King, Lott, L. Tell, Pennock, Joel H. Hill, Remario, Primrose, Pearl, Glen, Carl, A. L. Vin, Harry, Pearl, Jo King, T. O'Boggan, Lillian Locke, Swamp Angel, S. Key, Miss Chief, Cosette, Jo Gual, A. N. Drew, Ellsworth, Rokey, Rodger, Mazy Masker, Nemo, Z. E. Z. Lucile, Lord Baltimore, Aylid, Zo-roaster, Espemace, K. T. Did, Eugene.

Prize Winners.

1. C. Saw. 2. Gaudin. 3. Aylid.

ENIGMANIA—NO. 27.

NO. 248.—DECEITFUL.
Fair as a rare day in June,
Bright as his clear sky above,
Comes my sweet lass to attend
My heart to the rhythm of love.

Eyes of the tenderest blue,
Lips like the rose's deep blush,
Cheeks of a rare, rapturous hue,
Dimming the mellow flush.

Tresses that vie with the gold
Of the sun's all gentle rays,
Dear little hands I last hold—
Her heart beats for me always.

—DAN KNOX, Philadelphia.
NO. 249.—SQUARES.
(To Gi Gaudin.)

1. One who uses a good in driving. 2. Duck-like. 3. Formerly, apart of the Roman chancery. 4. A small marine spore. 5. A yellow aromatic liquid. 6. Frustrates. 7. Dearest.

A. A. post township, Crawford Co., Wis. 2. A crystallized substance resembling camphor. 3. A Kingdom of Germany. 4. The human foot. 5. A town of Sicily. 6. Frustrates. 7. Dearest.

—POLY, Brooklyn, N. Y.
NO. 251.—CHARADE.
Hither! come, my little maid!
Let us stroll together;
Bring your bucket and your spade
Where the crystal sands are laid,
By the dashing breakers sprayed—
Tossing the weather!

Then he'll away, to play to-day,
Myriad ships there be,
Happily drifting,
Over the sunlit sea.

Join us, join us, little lad!
Naught can hold us tether;
Feel old ocean's freshest breeze,
Watch the white sails of the sea,
Fair days are these, are these,
Sunshine is the weather.

Then he'll away, to play to-day!
A thousand joys there be,
Happily drifting,
Over the sunlit sea!

Skip along! my children gay,
As if you were a feather;
Life will always will be play,
First be happy while you may—
Whole your golden locks are gray—
Rainy off the weather.

Then he'll away, to play to-day!
The future there be,
Happily drifting,
Over the sunlit sea.

—L. L. ALLEGRO, Pittsburg, Pa.
—LOUGIE, Allegheny, Pa.

NO. 252.—DIAMONDS.

1. A letter. 2. An obsolete form of mess. (Cent.) 3. A woman's cloak or mantle. 4. A town of France. 5. Affliction. 6. A back-writer. 7. Rock, trout, R. Rain or snowfalls. (Ency. Dict.) 8. An instrument consisting of two parts. 10. An obsolete form of mess. (Cent.) 11. A letter.

—KENNETH, Morton Park, Ill.
(To Ship Fly.)

1. A letter. 2. To make a low whistling sound. 3. A village and parish of Switzerland. 4. A town of France. 5. A post-village in Grey Co., Ontario. 6. Five commissioners appointed for some special object. 7. Inducement. 8. Splinters. 9. Town of Poland, in Bracław. (Wor.) 10. Art. (Cent.) 11. A letter. —C. SAW, New York City.

NO. 253.—ANAGRAM.

It is no overflows a creek.
There is no love, and melancholy strains
Resound now from the belfry of Despair,
Noble life, we feel these worldly pains,
Wild beasts of earth that eager seek their
Lair—
To feast upon the prey they capture there.
Our friends are knives and to our troubled
brains
Mankind but seems as traitors everywhere,
Gleaming mailed o'er their ill-gotten gains,
Dread Satan fills the poisoned air.

Illusions prove these charming pay refraims—
Mirages are the words of true love's
prayer;
That purple lot which cruel Fate enchains

Must severed be from Nieu's whitened hair
Ere stanch Megaras wealth shall be laid
here.
His daughter Scylla when to Love gave reins,
In worship of the Crean Minos fair,
Betrayed her land with blackest treason
sins,
Yet cursed was she with scorn and icy
state.

But there is love, and its sweet solace reigns
Within each home, the mother's power
Enchants the way and our heart to train
The woes of Life and jeers of men to bear.
The sleeping babe that angel guards with
care.

And by its side she ever true remains,
Lest on the morrow when she mounts the
stair
Those ruddy lips are bound by grim Death
chains,
Those tiny shoes lay ever empty there.

—ZOROASTER, Philadelphia, Pa.
NO. 255.—JOSIAHEDDONS.

1. A city of Asia. 2. In place. (Standard.)
3. Ambassadors. 4. A guide. 5. An Indian
god antelope. 6. A town of Italy. 7.
Tillable. 8. A short ode. 9. A town of
Portugal. 10. Spanish painter; 1633-1685.
11. A river of Greece. 12. A petitioner.
13. A great brazen laver in the temple at
Jerusalem.

1. Evil. 2. The rind of the fruit of
several East Indian species of acacia. 3.
Chatters. 4. Even. (Stand.) 5. Eng-
lish poet; 1788-1824. 6. Italian jurist;
1338-1406. 7. A post-hamlet of Allegan
Co., Mich. 8. The brown coat. 9. Notes
formerly used in music. 10. To bring to
light. 11. American author; 1613-1682.
12. Infants. 13. German historical painter;
1754-1830. —PRIMROSE, Baltimore, Md.

NO. 257.—CHARADE.
Some nomad beans had crossed the sanded
track
To glid the monastery's gloomy pile—
The gorgeous hour when flying Day looks
back

To give the Earth a radiant, parting smile;
And where a ONE two dark against the
clash
Of changing red and sulphur-colored
flame.

His bosom scored by Discontent's sharp lash,
A young monk, pale with stormy vigils,
came;
His heavy-lidded eyes, whose longing gaze
Sought ever to pierce his confine's shadowing
bars.

To that great world beyond the sandy sea,
Turned earthward now in dreary reverie,
When, lo, among the scant, brown grass, a
WHOLE

Whose fragrant beauty strangely touched his
soul.
"Dear little fellow desert-child," cried he,
"Thy ONE hath never seemed too small to
thee!"

Methinks thou raisest that bright face to say
To him who pineth in his narrow shroud
The power that had made his bloom for him
a-day

For some good end hath placed him also
here!
Then night slipped softly down the paling
vest;
Forth from his lair came every prowling
thing;
The total sleep, but o'er the young monk's
breast

The dove of peace had spread her downy
wing.
—MARK P., Georgetown, S. C.
NO. 258.—DIAMONDS.

1. A letter. 2. Tree. (Cent.) 3. Crowds.
4. Grappling-irons. (Ency. Dict.) 5. To
transfer. 6. Species of willowwort. 7.
Those employed by others. 8. Mariners en-
gaged in the business of capturing seal.
9. Places of bestial debauchery. 10. Eyes.
(Cent.) 11. A letter.

1. A letter. 2. A prefix meaning "three."
3. Measures for fresh herrings. 4. Is grouped.
5. Having a truncheon. (Stand.) 6. The
upland or field plow. 7. Dried in the sun's
rays. 8. Separated. (Stand.) 9. Divided.
(Stand.) 10. Dead. (Stand.) 11. A letter.
—GI GANTIC, St. Louis, Mo.

NO. 260.—CHARADE.
I thought I ought to have a WHOLE,
And therefore wrote upon a scroll,
Giving my number, date and name,
An application for the same.

TWO THREE a holder put my ONE,
The letter's sent to Washington,
But I've been waiting twenty years
And not a sign of WHOLE appears.

—AIDY, Waite, Me.
NO. 261.—SQUARES.

1. A West Indian plant of the pineapple
family. 2. A Brazilian shrub, a species of
acacia. (Post. Med. Dict.) 3. A primi-
tive word. 4. One of the territorial
divisions of the U. S. 5. Pertaining to a
series of rocks in western New England, be-
longing to the lower Silurian strata. 6. A
species of mushrooms. (Frost's Med. Dict.)
7. Cheered. —MISS FRANK, St. Marys, O.

1. A play by Gascoigne and Francis
Kinwelsh, noted in 1566. (Cent. Cyclop.
of Names.) 2. A river of north Syria. 3.
Knives or cutters attached to the beam of
plows. 4. A patrician and plebeian family.
(Lempriere.) 5. A passage between two
headways. (Stand.) 6. A fortified town at
the north of Italy. (Lempriere.) 7. A
French colonial establishment in Africa.
—A. DANDY, Brooklyn, N. Y.

ENTIGMANIA.
So much excellent work is given this
month we shall not make use of a great deal
of space for editorial utterances. A dozen or
more first-class forms and flats can be used to
good advantage, if sent soon, for August
number. Keep the standard up!—St.
Julian has changed his address to 721 Union
street, Brooklyn.

7-1-96. R. O. CHESTER.
Grasses for a Dry Climate.

The native buffalo grass is the best
for a dry climate, but even that will not
grow on a dry sagebrush plain. That no
grass grows naturally may be taken
as some proof that the soil and cli-
mate are such as to preclude the growth
of grass at all, unless by irrigation.

When the land may be irrigated there is
no fodder plant better than alfalfa, (the
common lucern), which has been found
most excellent in Colorado and Cali-
fornia. There is no evidence that this
plant, a relative of the common clover,
is injurious in any way to cattle or sheep,
or even horses if it is fed to them with
due caution not to run to excess. An
excellent grass to grow under irrigation
is ryegrass, one of the most valuable of
all kinds in cultivation.

The Spiny Crotchet.
This disagreeable plant is known by
the three-spined burr at the base of the
leaf. It does not bear a round burr, as
that of the common burdock. This
plant has a relative called the small bur-
dock. It has small burrs with straight
points, not hooked, and ovate leaves
smooth and tapering at the base. The
botanical name is Lappa officinalis, vari-
ety minor.

THE MARKETS.

Produce.

New York, June 30.—Butter.—The market
for butter was rather quiet to-day. The demand
for 8 cre dairy is only light. Much of the
creamery has arrived in poor order, and buyers
generally want sound fancy and choice stock.
Prices are generally easy. Institution creamery
is quiet, but prices remain steady. Western
factory also quiet. We quote:

State dairy, half-fats tubs, fancy, per pound..... 14 1/2
creamery, choice per pound..... 14 1/2
creamery, fancy per pound..... 14 1/2
Western creamery, choice per pound..... 14 1/2
creamery, ordinary to good, per pound..... 14 1/2
creamery, ordinary to good, per pound..... 14 1/2

Beans and Peas.—Marrows are rather quiet,
and the recent speculative demand has sub-
sided. Medium and pea beans advanced to
\$1.07, but large receipts again sent prices down.
The supply of medium and pea beans is suf-
ficient to meet all demands. Red kidney beans
are closing up under a fair demand for export.
We quote:

Beans, marrow, choice..... 14 1/2
Beans, pea, choice..... 14 1/2
Beans, medium, choice..... 14 1/2
Beans, small, choice..... 14 1/2
Beans, white kidney, choice..... 14 1/2
Beans, black turtle soup..... 14 1/2
Beans, yellow eye..... 14 1/2
Beans, lima, California..... 14 1/2
Beans, black turtle soup..... 14 1/2
Green peas, bags..... 14 1/2
Green peas, Scotch, bags..... 14 1/2

Chickens.—There has been arriving in good con-
dition, and there is a better feeling in the mar-
ket to-day. There was a good demand for large
chickens, but the supply was not large. The
market for small chickens is quiet. The demand for small
chickens is somewhat better. Partskins are dull. We
quote:

State factory, new, large, white, per pound..... 14 1/2
State factory, new, large, colored, per pound..... 14 1/2
State factory, part skins, choice, per pound..... 14 1/2
State factory, full skins per pound..... 14 1/2

Dried Fruits and Nuts.—Fancy evaporated
apples are scarce and are higher. Lower grades,
however, are quiet. Sugar-coated apples are quiet.
Cores and skins are scarce and in good
demand. Prunes are still in good demand and
apples are steady. Hand-picked peanuts are
quiet, but there is a demand for Spanish
shelled. Pecans are steady. We quote:

Apples, evaporated, choice, per pound..... 14 1/2
Apples, sun-dried, sliced, per pound..... 14 1/2
Apples, chopped, per pound..... 14 1/2
Apples, cores and skins, per pound..... 14 1/2
Chickens, per pound..... 14 1/2
Blackberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, sun-dried, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2

State factory, new, large, white, per pound..... 14 1/2
State factory, new, large, colored, per pound..... 14 1/2
State factory, part skins, choice, per pound..... 14 1/2
State factory, full skins per pound..... 14 1/2

Dried Fruits and Nuts.—Fancy evaporated
apples are scarce and are higher. Lower grades,
however, are quiet. Sugar-coated apples are quiet.
Cores and skins are scarce and in good
demand. Prunes are still in good demand and
apples are steady. Hand-picked peanuts are
quiet, but there is a demand for Spanish
shelled. Pecans are steady. We quote:

Apples, evaporated, choice, per pound..... 14 1/2
Apples, sun-dried, sliced, per pound..... 14 1/2
Apples, chopped, per pound..... 14 1/2
Apples, cores and skins, per pound..... 14 1/2
Chickens, per pound..... 14 1/2
Blackberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, sun-dried, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2

State factory, new, large, white, per pound..... 14 1/2
State factory, new, large, colored, per pound..... 14 1/2
State factory, part skins, choice, per pound..... 14 1/2
State factory, full skins per pound..... 14 1/2

Dried Fruits and Nuts.—Fancy evaporated
apples are scarce and are higher. Lower grades,
however, are quiet. Sugar-coated apples are quiet.
Cores and skins are scarce and in good
demand. Prunes are still in good demand and
apples are steady. Hand-picked peanuts are
quiet, but there is a demand for Spanish
shelled. Pecans are steady. We quote:

Apples, evaporated, choice, per pound..... 14 1/2
Apples, sun-dried, sliced, per pound..... 14 1/2
Apples, chopped, per pound..... 14 1/2
Apples, cores and skins, per pound..... 14 1/2
Chickens, per pound..... 14 1/2
Blackberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, sun-dried, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2

State factory, new, large, white, per pound..... 14 1/2
State factory, new, large, colored, per pound..... 14 1/2
State factory, part skins, choice, per pound..... 14 1/2
State factory, full skins per pound..... 14 1/2

Dried Fruits and Nuts.—Fancy evaporated
apples are scarce and are higher. Lower grades,
however, are quiet. Sugar-coated apples are quiet.
Cores and skins are scarce and in good
demand. Prunes are still in good demand and
apples are steady. Hand-picked peanuts are
quiet, but there is a demand for Spanish
shelled. Pecans are steady. We quote:

Apples, evaporated, choice, per pound..... 14 1/2
Apples, sun-dried, sliced, per pound..... 14 1/2
Apples, chopped, per pound..... 14 1/2
Apples, cores and skins, per pound..... 14 1/2
Chickens, per pound..... 14 1/2
Blackberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, sun-dried, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2

State factory, new, large, white, per pound..... 14 1/2
State factory, new, large, colored, per pound..... 14 1/2
State factory, part skins, choice, per pound..... 14 1/2
State factory, full skins per pound..... 14 1/2

Dried Fruits and Nuts.—Fancy evaporated
apples are scarce and are higher. Lower grades,
however, are quiet. Sugar-coated apples are quiet.
Cores and skins are scarce and in good
demand. Prunes are still in good demand and
apples are steady. Hand-picked peanuts are
quiet, but there is a demand for Spanish
shelled. Pecans are steady. We quote:

Apples, evaporated, choice, per pound..... 14 1/2
Apples, sun-dried, sliced, per pound..... 14 1/2
Apples, chopped, per pound..... 14 1/2
Apples, cores and skins, per pound..... 14 1/2
Chickens, per pound..... 14 1/2
Blackberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, sun-dried, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2
Raspberries, per pound..... 14 1/2

State factory, new, large, white, per pound..... 14 1



Bicycle Reform Costume.
(From a German Comic Paper.)



"Here is something the doctor says one bottle of which will make a new woman of you."



"When the doctor calls to-day, John, you may tell him that I feel all right now."



"Look here, you confounded pill roller, sit down there and write that you think the bicycle is injurious to women. Also write a prescription counteracting that medicine you gave her."—Life.

Returns Not In.

"I congratulate you, Wigginton, on having your three daughters married off."

"Just wait a while, Hopkins; I can't tell yet whether I have three daughters married off or three sons-in-law married on."—Chicago Record.

Intellectuality.

"Quimberly, what is your idea of an intellectual woman?"

"Well, she's a woman who has sense enough to spread a stepladder so it won't shut up and leave her hanging to the top shelf of a closet."—Chicago Record.

Further Information.

It remained for a Morris boy, in the school examination of last week, to include the alimentary as among the world's five most important canals.—Morris Sun.

Wanted the Date.

Mr. Figg—Tommy, I hear you have been telling lies. I never told lies when I was your age.

Tommy—When did you begin, paw?—Indianapolis Journal.

Decorative Panel "Aunt Hannah Calling the Cows Home."



N. B.—No X-rays about this; just plain old sun's rays.—Harper's Monthly.

Fits the Choir's Case.

Willie—Mamma, does the Bible say we must pray for our enemies?

Mrs. Simpson—Yes, Willie.

Willie—Then I should think the minister would pray for the choir.—St. Louis Republic.

A Sure Sign.

Nodd—Do you ever have a presentiment that you will be called upon to pay out large sums of money?

Todd—I don't know. Have you?

Nodd—Yes. My wife hasn't been able to get down town for a week.—Detroit Free Press.

As She Is Spoken.

Fond Mother—Come here, you dirty boy, and let me brush your pants off.

Fond Father—Wouldn't you just as lief brush the dust off instead, my dear, and leave the pants on him?

Fond Mother—Mind your own business, smarty.

Must Be Paid For.

The Macungie Progress says that apples may be kept two years by simply wrapping them in newspapers. In order not to make a failure of the business, however, only newspapers that have been paid for should be used, otherwise the dampness resulting from the dues may cause the fruit to spoil.—Girardville (Pa.) Item.

Likely to Meet it Again.

He ran violently against the lamp-post.

"I wish the post was in —" he muttered furiously.

And a voice from the darkness beyond said: "You'd better wish it somewhere else, mister. Likely you'll run against it again there."—Galignani.

A Mean Trick.

"Old Chugwater played the meanest April-fool trick on his family of any I have heard of."

"Well?"

"He took a box of fine-looking candy home with him, placed it on the table in the sitting-room, said nothing, picked up a paper, and began to read."

"Well?"

"His wife and daughters had heard of April-fool candy, of course, and they didn't touch it."

"Then where does the meanness of the trick come in?"

"It was perfectly good candy—the best in the market. He gave it to the hired girl, and then jeered them about their unjust and unkind suspicions."

A Fresh Young Man.

He was a delicate young man in a pink shirt and duck trousers, both of which he wore in a pompous and conceited manner. He was seated in the train dangle his tennis racket, and busily amusing a number of bright young ladies and gentlemen of his party.

"Ah, how good! Here's the conductor. Watch me astonish him."

"Ticket, sir," said the conductor.

"My dear man," said the young man, "my—er—face is my ticket."

The conductor smiled and looked around at the young man's friends, and then, in a polite and apologetic manner, said, "I beg your pardon, ladies and gentlemen, but my orders are to punch all tickets, and I'm afraid I might destroy this ticket so much that I can't turn it in at the end of the run."

Here the young man colored redder than his shirt, and hastily produced his ticket amid shouts of laughter from his friends.—Harper's Round Table.

They Were Strangers.

Both were walking at a rapid pace, and as they turned the corner they bumped into each other. There was a rebound and for half a minute they stood off and looked at each other without a word. Then the chunky man held out his hand and said:

"Uncle Rastus, I hain't mad at yo'!"

"Who am yo', sah?" demanded the old man with much dignity.

"Come, come, Uncle Rastus—yo' knows who I am. Let's shake hands."

"No, sah—no, sah! I nebber shake hands wid total strangers. If I ebber seen yo' befo' I doan' disrecollect de occasion. Was yo' from de town of Pikeville, sah?"

"Look a-heah, ole man," replied the chunky man, who was evidently nettled over the situation, "I want yo' to understand dat I has got jest as much dignity as yo' has. If yo' doan' want to speak to me I doan' want to speak to yo'!"

"Hu! Look out, nigger! I ze powerful bad when I ze roused up!"

"Nigger, yo'self! If yo' wasn't my fadder-law I'd broke yo' chin right off!"

"Yo' fadder-law! I dun doan' know yo' sah! Hole on a leetle! Seems like I'd dun heard dat bawoz befo'." Was yo' a pusion named Tony White?"

"Of co'se I was."

"Waal, mebbe I does disremember yo'. Let's see? Yo' dun had a leetle paty at yo' house foddur night?"

"Yes, sah."

"Dun had ice-cream an' strawberries?"

"Yes."

"Yo' dun tole yo' fadder-law to git dar at half-past eight o'clock, an' when he arrive dar wasn't nuffin left! Eben de plates dar bin licked off, an' all he got was a banana peelin' an a glass o' buttermilk!"

"But yo' see, Miser Jackson, I dun reckoned."

"Sah! Was yo' distressing yo' remarks towards me?" icily demand the old man, as he drew himself up as stiff as a telegraph pole.

"Of co'se I was."

"Den yo' was dun mistaken in de pusion, sah! We nebber met up befo'. We doan' know each odder. Good mawnin', stranger. If yo' want to inquire 'bout dis town yo'd better ax dat gen'l'man across de road. I was werry busy dis mawnin' an' hain't got time to fool wid strange niggers!"

THE DAIRY.

Skimmings.

Good Jersey cows will give rich, clean, healthy milk.

Butter made of perfectly fresh cream is pure in flavor.

Stop the churn when the butter comes the size of wheat grains.

Put up your butter in neat, clean, sweet, and attractive packages.

Scrupulous cleanliness and regular temperature are the thing in churning.

While in the butter's granular stage incorporate the salt evenly and thoroughly.

If possible feed cows on rich, old pastures, free from weeds, and preferably on uplands.

Milk is more sensitive in receiving and tenacious in holding impurities than water.

Scrupulous cleanliness from the cow pasture to the butter box is the guarantee of good butter.

Free the butter of buttermilk while in the grain, taking care not to break the grain in working.

Milking the cows in a clean, well ventilated stable, free from all atmospheric taints, is of first importance.

Set milk to cream and the cream to ripen in a clean, well ventilated room that may be kept at a low and even temperature.

Mixing the milk of a fresh cow with the milk of cows that have been fresh for some time is often a cause why the butter does not come quickly.

Stick to your cows and your pails. While the prices of milk, butter and cheese may be low, they are still the most profitable products of the farm.

Parisian restaurant keepers mix a little honey with their butter. This gives it an agreeable taste and flavor and makes inferior butter more palatable.

To get a good cow it is indispensable that a certain amount of good blood be in either the sire or the dam, better both; but it is possible that with two equally good calves two very different cows may be the result.

New cheese is coming on the market now in increased quantities. The probability is that there will be an unusually large output of cheese this year on account of the low price of butter. It is claimed there is more money in cheese at 6 cents than butter at 15.

To prevent mites in cheese the Danish Station whitewashes floors, walls and ceiling of the curing room till all mites are destroyed, then gives the cheese a 24 hours' bath in lime before placing in the curing room. During the 14 days in the curing room the cheese is wiped off daily, and is then thoroughly scraped and washed in brine.

There are 80 factories in Otsego County, N. Y., for the manufacture of cheese, butter, or butter and cheese, of which 47 make cheese only, seven make butter, and the remainder make both. In 37 factories only full cream is made. Every town in the County has one or more factories, and the total production of cheese in the County is 6,109,445 and of butter 774,525 pounds.

The Minnesota Dairy Commissioner reports the establishment of 80 creameries and 20 cheese factories last year in that State. The larger number of creameries is accounted for by the fact that hog raising is an important industry and the creamery returns the skim milk and at the same time pays about as much as the cheese factory, which returns nothing. The Commissioner also reports that the large number of creameries have driven oleomargarine out of the State, because the dairymen are now able to manufacture and sell good butter so low that oleomargarine has no chance.

Testing Milk for Butter.

A sufficiently accurate test of the butter value of any cow's milk may be made with a small churn if the milk is left for 36 hours for the cream to separate in a cool place, where it will not sour in that time. A chemical test may be made by putting some milk, accurately measured, as soon as it is brought in from the cow and has been well stirred, in a measuring glass graduated accurately. Half the quantity of ether is added and well shaken with the milk, the mixture being set quietly for the fats dissolved by the ether to rise. When this is done the ether solution of the fat is poured off into a small evaporating dish, set over a spirit lamp. When the ether is all evaporated the fat left is measured. The most practical test is made by churning the milk of the cow in a small churn and weighing the butter made. As this is all that can be got from the cow's milk it is her actual butter value, for what is lost in this way is of no account any way. Each cow's milk should be churned by measure exactly, then the same quantities mixed, and the results compared, which will be a business certainty. The effects of the mixing of the milks are always noticeable in the increase of butter made by reason of one milk helping to collect the butter of others.

Milk from Stripper Cows.

When a cow has been long milking and is not in calf, the quality of the milk changes, and at times it is impossible to get butter from the cream. This is so pronounced a characteristic of such milk that one cow in a herd of this kind will be apt to cause trouble in the churning. The most satisfactory way to manage a herd is to have at least half of the cows within not more than two months of their calving, or at most four months; then the effect of the long milking of the others is not apt to have any ill effect on the behavior of the cream in the churn.

Grading of Butter.

The commission merchants of Chicago have adopted the following classification of butter and style of packages:

CLASSIFICATION OF BUTTER.

Extras—Shall consist of the highest grade of butter produced during the season when made.

Flavor—Must be quick, fine, fresh and clean if of fresh make, and good, sweet and clean if held.

Body—Must be firm and solid, with a perfect grain or texture, free from saltiness.

Color—Must be uniform, neither too light nor too high.

Salt—Well dissolved, thoroughly worked in, not too high or too light salted.

Package—Good and sound, as required in classification.

Firsts—Shall be a grade just below extras, lacking somewhat in flavor, which, however, must be good, sweet and clean. All other requirements being the same as in extras, excepting style of package.

Seconds—Shall consist of a grade just below firsts.

Flavor—Must be fairly good and sweet.

Body—Must be sound and smooth-boring.

Color—Fairly good, although it may be somewhat irregular.

Salt—May be irregular, high or light salted.

Package—Same as required in firsts.

Thirds—Shall consist of butter below seconds, defective in flavor, showing strong tops and sides, not smooth-boring, mixed or streaked in color, irregular salting and miscellaneous package.

Grease Butter—Shall consist of all grades of poor and rancid stock below thirds.

PACKAGES TO BE USED.

Creamery—Tubs, hard wood, 55 to 60 pounds. (For extras shall be standard 50-pound white ash, 56-pounds tubs.)

Imitation Creamery—Tubs 30 to 60 pounds.

Dairy—Tubs of varying sizes.

Ladies—Tubs of varying sizes.

Packing Stock—Any style or size of package.

Roll—Any style or size of package.

Grease—Any style or size of package.

The Southern Dairy Region.

Mountain regions have always been credited with unusual facilities for dairy enterprise, probably on account of the excellence of the grass and other herbage that are grown, and the general purity of the water. Besides, it is a fact that these elevated regions are almost, if not quite, free from those troublesome germs that infect the lower atmosphere, and a better climate exists in them for the pursuit of the dairy.

Both western North Carolina and the mountains of Arkansas are especially well adapted for the dairy business, on account of the cheap land and the abundant feed that can be most cheaply secured. The climate of North Carolina in the mountains, in both Winter and Summer, is the best possible for dairy work, as the Winters are very mild and outdoor feeding is possible most of the time, while, on account of the elevation, the Summers are cool, and so difficulty is found on account of the heat, there being a most abundant supply of cold spring water for the dairy. There are ample markets for the sale of fine butter, as there are a great many health resorts, both for Summer, on account of the coolness, and for Winter, on account of the warmth, all over the Southern mountain region. The soil on the mountains is deep and rich, and produces grass and all the grains to perfection. Land is now cheaper than anywhere else on the continent. This all applies to both the Carolina and the Arkansas regions.

An Experiment.

Last August the Maine experiment station sent a man around with the cream gatherers of two butter factories to take samples of the skim milk from the farmers. These samples were carefully labeled and sent to the station chemist for tests for butter fat. There were 224 such samples and the tests showed that skim milk from farms where cream was raised by deep setting in ice water was as free from butter fat as that from farmers using cream separators. The conclusion is that deep setting in ice water secures as good results as the separating machines.

Butter as a Medicine.

English experiments have shown that good butter is equal to cod liver oil for consumptives and others needing to be built up in flesh, and that it is much more easily digested and hence it can be used in larger quantities. Many stomachs too delicate to digest cod liver oil at all readily digest large quantities of butter taken on thin slices of stale bread.

To Discover Oleomargarine.

To detect oleomargarine from genuine butter a small portion of each is melted in proper receptacles in which common cotton wicks are inserted and lighted. These will burn freely. The odor of the smoke arising from the oleomargarine is repulsive and nauseating, while that from butter is faint and inoffensive.

How's This!

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

J. C. CHENEY & CO., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by him.

W. & T. HAZ, Wholesale Druggists, Toledo, O.

W. A. KIRK, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 50c per bottle. Sold by all Druggists.

When writing mention this paper.

THE ORCHARD.

A Simple Tree Protector.

The cut shows a simple but effective method of supporting young trees, especially where a large orchard is set. In such case, the saving of a little labor at each tree amounts to a great deal in the case of the whole orchard. The trunk of the tree rests in the angle between



three stakes, and is held there by a strip of cloth used as a string. The cloth is twisted about so as to have a fold of it between the trunk and the stakes, to prevent chafing. The stakes are bound together by a bit of wire. The cloth will stretch and loosen sufficiently, so that the growing trunk of the tree will not be bound at all. A large orchard can be staked out in this way with very little labor, and the result will prove very satisfactory, as every one of the three stakes acts as a brace—something that cannot be said of such as are driven about the tree perpendicularly.

Management of Burdocks.

It is true that there is a time at which plants may be most easily killed on account of the special conditions of them at that time; but this time is wholly one of condition of growth, and not of any special condition of the moon, or anything outside of this earth or the plant itself. Generally, the time at which plants of all kinds are most vulnerable is when they are in the most active growth, when, being deprived of the leaves by cutting them down to the roots, the root is so checked as to fail to recover, and so dies. The burdock has a large root, and is a perennial, making many seeds, which are easily carried from one place to another, and thus spreads far and wide. An excellent way of dealing with these perennial weeds is to cut them low down by the roots, as far as possible under ground. This is done by means of the spud. Perseverance in this has never failed of success with the worst of perennial weeds. But a sure thing is to pour a little common sulphuric acid on the roots, or put a handful of coarse salt on when the spud is used. When the space is too large for this, plowing in the hot weather, turning the roots up to the hot sun, will, with a little additional work with the spud or a sharp hoe, finish up the work.

To Prevent Injury to Trees by Borers.

It is an easy thing to save the apple and other trees from the borers. One way is to put a piece of fine wire gauze around the tree for a foot and a half above the ground, and an inch in the ground. A wash made of lime, slacked, and mixed with cow dung, and enough carbolic acid to give it a strong odor, applied to the trees early in the Spring and again in June or July, will keep the moths and beetles—the parents of the grubs—from laying their eggs on the bark. It is not difficult to kill the grubs by means of a wire pushed into the holes where the dust made by them is seen, and to cut them out with a small gouge when necessary to aid the wire. The trees will withstand the cutting in this way far better than they will the borers' injuries.

Getting Rid of Stumps.

We clip the following from *Hardwood*:

"It often occurs in logging operations and in laying out lumber yards that troublesome stumps have to be removed, often at the expense of a good deal of time and money. To dig and chop them out is a tedious process, and to use a stump-puller not always practicable, and in any event costly, besides leaving large holes to fill and grade over. The English and French have commenced using a method not only cheap, but exceedingly simple and effective.

The only appliances necessary are a shovel, a little dry kindling, and a sheet-iron cylinder large enough to slip down over the larger stumps, the top conical-shaped and terminating in a collar on which one or more lengths of six or eight-inch common stove pipe may be fitted. A hole is dug between the roots one side of the stump and partially under it large enough to start a fire with the kindlings. After the fire is once fairly started the iron cylinder is slipped over the stump, the stovepipe is added, and the whole arrangement acts as a stove, burning the stump out completely.

It is said that if the stumps are old and any way dry, and the weather is dry, they will burn easily without the cone-shaped top and stovepipe. It is also claimed that where the stumps are green, a half gallon of kerosene or crude petroleum poured over the stump an hour or so before lighting the fire will facilitate matters greatly; but in this

case the top and pipe do vastly more, making, as they will, a strong draft that will burn well down into the roots. It is claimed that one man with three or four cylinders, large and medium, to fit over different sized stumps, can do more and better work in a day than a dozen men with axes alone."

THREE BIG OLIVE GROVES.

Great Boom in the Industry in the Southern Part of California.

Three of the largest olive orchards in the world are being planted in southern California this season. The largest grove now being planted is that of Andrew McNally, of the great publishing firm of Rand & McNally, of Chicago. He has a gang of men at work laying out a 400-acre olive grove near Fullerton, in Orange County. He will plant 40,000 olive trees. In the vicinity of Colton, Barnett Stevenson, a cousin of Vice-President Stevenson, owns, with Mrs. A. E. Stevenson, several hundred acres of land. An olive grove of 340 acres is now being prepared there as fast as men and teams can get the land in readiness. Some 34,000 trees have been bought in Pomona for the Stevenson grove. D. E. Emery, recently of Oakland, is having 240 acres of olives planted near Whittier.

Never has there been such extensive planting of olive groves, both big and little, in southern California as this season. Pomona Valley nurseries have sold already 200,000 olive trees and the season is only half over. The cause for this boom is the increased popularity of California olives in Eastern markets. Good profits have come to olive growers and olive oil manufacturers in the last two years. So great has been the call for California olives this season that local markets are comparatively bare of fruit.

The British Isles comprise no less than 1,000 separate islands and inlets, without counting mere jutting rocks or isolated pinnacles.

REFERENCES REQUIRED.

Before hiring a man you want to know where and how well he has worked. Just so with fences. Plenty of careful, thrifty farmers have had ours in use eight or ten years. Can you do better than ask their opinion. Send for our monthly paper free.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

When writing mention this paper.

ENSLAVE CUTTERS.

Corn Crushers, Feed Cutters, Corn Threshers. The best, most practical, with greatest capacity of any made. Crushes corn in the ear with snuck on, threshes and shells even on the stalk, cleans it for market and cuts the fodder at same operation. For free illustrated catalogue, address: E. A. Farrier & Bros., 946 State St., Bowling Green, Ky.

When writing mention this paper.

FARMERS.

You can make money by selling and using HOLFORD Corn Binders, used on every block. Pull and lay flat. Then sell. Costs less than string. Never wears out. Thousands easily sold in a town. Good profits. Get your town agency now. Outline, stamps. T. H. Co., Box 161, Uxbridge, N. Y.

When writing mention this paper.

For Farm Cream Separators.

Write P. M. Sharples, West Chester, Pa., Elgin, Ill.

When writing mention this paper.

PATENTS.

Opinions rendered as to the novelty and patentability of inventions and validity of patents. Rejected applications prosecuted. All business relating to patents promptly attended to.

Now we have it!!

GLEASON'S HORSE BOOK.

The Only Complete and Authorized Work by America's King of Horse Trainers.